BEFORE THE
SURFACE TRANSPORTATION BOARD
DOCKET NO. FD 36496

APPLICATION OF THE NATIONAL RAILROAD PASSENGER CORPORATION UNDER 49 U.S.C. § 24308(e) – CSX TRANSPORTATION, INC. AND NORFOLK SOUTHERN CORPORATION

CSX TRANSPORTATION, INC. AND NORFOLK SOUTHERN RAILWAY COMPANY'S MOTION TO DISMISS

TABLE OF CONTENTS

J. *Statement From Amtrak CEO On President Biden's American Jobs Plan*, Amtrak Press Release (Mar. 31, 2021)

K. *Amtrak seeks authority to begin service between New Orleans and Mobile or have CSX and NS show why they cannot do so*, Amtrak Press Release (Mar. 16, 2021)

L. *Urgent funding needed for continued service*, Amtrak Press Release (Nov. 23, 2020)

M. John Sharp, *Ivey says questions remain before Alabama can commit to Amtrak's Mobile return*, AL.COM (June 8, 2019)

N. Meeting Minutes of the Southern Rail Commission (Mar. 6, 2020)

O. Railroads for National Defense, U.S. Army, Transp. Eng'g Agency (last accessed Mar. 29, 2021)

I. EXECUTIVE SUMMARY.

Amtrak's Application should be dismissed for three reasons. First, Amtrak asks the Board to rule on a dispute that is not ripe, because (1) CSX Transportation, Inc. ("CSXT") and Norfolk Southern Railway Company[1] ("NSR") have not refused to accommodate Amtrak's proposed service—they have simply asked Amtrak to live up to the commitments it made to complete a joint Rail Traffic Controller ("RTC") modeling study to determine the infrastructure that will be required to support such service and (2) Amtrak lacks important state support to ensure success. Second, Amtrak asks that the Board take major federal actions with significant environmental consequences, but it fails to submit an Environmental and Historic Report as required by 49 C.F.R. Part 1105. Third, Congress did not give Amtrak any cause of action that could support its extraordinary demand for an "interim order" allowing Amtrak to enter other railroads' lines to perform "preparations" for new service before the Board issues any decision on whether the new service will be allowed.[2]

Congress created an avenue, in 49 U.S.C. § 24308(e), for Amtrak to seek relief from the Board if a railroad "does not agree to provide, or allow Amtrak to provide, for the operation of additional trains over a rail line of the carrier." But the prerequisite for a §24308(e) action is a railroad's **refusal** to allow additional service.

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[1] While Amtrak names Norfolk Southern Corporation in its Application, Norfolk Southern Railway Company is the proper party.

[2] 49 U.S.C. § 24308(e)(1). Amtrak is a party to separate operating agreements with CSXT and NSR, both of which contain forum selection clauses that provide for resolution of passenger service issues before the National Arbitration Panel. CSXT and NSR have elected to waive those forum selection clauses for purposes of this proceeding only. These contracts also contain provisions setting forth standards that govern passenger service modifications and their impact on freight service. CSXT and NSR reserve the right to enforce those standards in binding arbitration.

Here, **CSXT and NSR have not said no to Amtrak's request**. On the contrary, last year CSXT and NSR agreed with Amtrak to engage HDR Engineering, Inc. ("HDR") to conduct a joint RTC study to determine the infrastructure needs required to accommodate the proposed Gulf Coast passenger service over the rail lines of CSXT and NSR between New Orleans, Louisiana and Mobile, Alabama (the "Gulf Coast service"). That study was nearing completion when Amtrak **unilaterally** decided to end it and subsequently refused to consent to CSXT and NSR completing the study at their own expense.

It is fundamentally unfair for Amtrak to refuse to allow a standard impact study to be performed—one that Amtrak agreed to co-sponsor in 2020—and then assert that it is entitled to an order imposing service anyway because the freight railroads supposedly "refuse to agree." Not only have CSXT and NSR not refused to agree to provide for Gulf Coast service—they entered into a joint operational modeling study to be completed prior to the commencement of new passenger service so that the parties can determine what infrastructure is required to support that service. For over a year, CSXT and NSR relied on Amtrak's involvement in the study. Rather than permit completion of the study and reserve the right to challenge the study's findings, Amtrak is now attempting to withhold this valuable information from the Board entirely. Given that this is a case of first impression under § 24308(e), it is important that the parties provide the most complete record possible to the Board. Indeed, there needs to be a rigorous operations modeling study in this first case to set the standard for future cases as Amtrak has

announced its plans to "connect new city pairs," like New Orleans to Mobile, throughout the country.[3]

It is well settled that Amtrak's right to use a freight carrier's rail lines for passenger service is conditioned on the payment of reasonable compensation.[4] But Amtrak appears to be trying to avoid its financial obligations by pushing for hastily conceived passenger service without adequate study. The Board may investigate a freight carrier, on its own initiative or at Amtrak's request, for failing to achieve an 80% on-time performance ("OTP") standard and "remit the damages awarded under [§ 24308(e)] to Amtrak."[5] And those damages "shall be used for capital or operating expenditures on the routes over which delays or failures to achieve minimum standards were the result of a rail carrier's failure to provide preference to Amtrak over freight transportation."[6] If passenger service were ordered to begin on January 1, 2022 without the presence of sufficient infrastructure to ensure 80% OTP is attainable without unreasonably degrading rail service, CSXT and NSR (and ultimately their freight customers) could be made to subsidize the very infrastructure necessary to support the proposed Gulf Coast service. Amtrak should not be permitted to pass the buck for the full costs of its requested new service.

CSXT and NSR urge Amtrak to stand by its commitment to complete the joint study. Once that study is finished, it may be that CSXT, NSR, and Amtrak do

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[3] Ex. J. – *Statement From Amtrak CEO On President Biden's American Jobs Plan*, Amtrak Press Release (Mar. 31, 2021), https://media.amtrak.com/2021/03/statement-from-amtrak-ceo-on-president-bidens-american-jobs-plan/.

[4] The Board may order a freight railroad to make available facilities and provider services to Amtrak in exchange for "reasonable terms and compensation" and "Amtrak's right to use the facilities or have the services provided is conditioned on payment of the compensation." *See id.* § 24308(a)(2)(A)(ii), (3).

[5] *Id.* § 24308(f)(4).

[6] *Id.*

not agree on the infrastructure necessary for the new service, and that a Board decision is needed. But right now Amtrak's Application does not satisfy the fundamental prerequisite for a § 24308(e) case—refusal by a prospective host freight railroad to "agree to provide, or allow Amtrak to provide, for the operation of additional trains." The Board should dismiss the Application without prejudice so the parties can pursue completion of the RTC study or an equivalent study, including an engineering analysis of any infrastructure recommended by the study. A completed study and engineering analysis will enable the parties to determine whether there is actually a disagreement that requires Board review—at which time Amtrak is free to refile its Application.

Amtrak's Application is also premature because the proposed Gulf Coast service lacks important state support to be successful. The proposed Gulf Coast service will operate over less than 200 miles of track across three states: Louisiana, Mississippi, and Alabama. At least one of these states, Alabama, has not yet committed to providing any funding for this state-supported route. Alabama has long insisted that there must be a thorough study of the impact of new Gulf Coast service on the quality of freight rail transportation in the region, in large part because of the ever growing importance of the Port of Mobile to Alabama's economy. Amtrak's failure to obtain the support of key stakeholders—such as the Governor of Alabama, a member of the City Council for the City of Mobile, Alabama, and the Alabama State Port Authority—further underscores why the Application is not yet ready for the Board's review.[7]

A second, independent reason why Amtrak's Application should be dismissed

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[7] *See* Letter from Governor Kay Ivey, Doc. No. 301867 (filed April 1, 2021); Letter from Mobile Councilman Joel Daves, Doc. No. 301878 (filed April 2, 2021); Letter from Alabama State Port Authority, Doc. 301883 (filed April 5, 2021); *see also* Letter from Senator Richard Shelby, Doc. No. 301856 (filed March 31, 2021).

is that it fails to comply with the Board's Part 1105 environmental rules, which are designed to help the Board fulfill its obligations under the National Environmental Policy Act ("NEPA") and other environmental, energy, and historical preservation laws. An order that could result in new passenger service and federally funded infrastructure improvements constitutes a major federal action that requires NEPA review. NEPA review is particularly important here, where the route in question runs through environmentally sensitive areas, abuts wetlands, and impacts both roadways and waterways. The Board's regulations clearly required Amtrak to submit an Environmental and Historic Report in advance of or in conjunction with its Application and to certify that it had engaged in necessary consultation with relevant agencies and "afford[ed] those agencies a reasonable opportunity to provide meaningful input."[8] The Application should be dismissed without prejudice to Amtrak's right to refile once it can provide the environmental materials that the Board needs to comply with NEPA.

Finally, Amtrak's request for an "interim order" that would grant it immediate "access to CSXT's and NSR's rail lines" to make "improvements" that Amtrak deems necessary should be dismissed with prejudice.[9] Amtrak identifies no statutory provision that would support such extraordinary relief, because none exists. Allowing Amtrak access to another railroad's lines to alter that railroad's facilities is an unprecedented intrusion that could seriously harm freight service over these lines both during and potentially after construction. Nothing in § 24308 gives Amtrak the right to apply for such relief. Moreover, a Board order permitting Amtrak to begin construction projects on another railroad's lines would plainly be a

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[8] 49 C.F.R. § 1105.7(c).

[9] Application at 6 & n.12.

major federal action with potential environmental consequences and thus requires the Board to complete a NEPA analysis beforehand.

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CSXT and NSR reiterate that, with the exception of Amtrak's request for an interim order, this Motion seeks dismissal of the Application *without prejudice*. Granting this motion will not prejudice in any way Amtrak's ability to refile its Application if, after completing an operations modeling study and an Environmental and Historic Report and securing support from all key stakeholders, the parties remain unable to agree on the implementation of the proposed Gulf Coast service. If however, the Board denies this Motion to Dismiss, the Board should not move forward by setting a procedural schedule. Instead, the Board should hold Amtrak's Application in abeyance for as long as Amtrak requires to complete an operations modeling study and the requisite Environmental and Historic Report and secure Alabama's support. These preconditions are interrelated, and the Board cannot carry out its statutory obligations properly until Amtrak remedies its Application's deficiencies.

In any event, Amtrak's proposed procedural schedule is unworkable.[10] Amtrak's proposal appropriately recognizes that § 24308(e) calls for "a hearing on the record,"[11] but sets forth an unconventional schedule that calls for discovery to occur in the midst of evidentiary filings rather than before them. This perplexing recommendation is further proof that Amtrak's Application for Gulf Coast service is

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[10] Amtrak's Application is not a complaint triggering an obligation to provide a formal answer under 49 C.F.R. § 1111.5. To the extent any allegations in Amtrak's Application are not addressed in this Motion to Dismiss, CSXT and NSR deny those allegations. CSXT and NSR will file full evidentiary responses at the appropriate time as designated by the Board.

[11] 49 U.S.C. § 24308(e)(1).

rushed and not ready for Board review. But if the Board denies any portion of this Motion to Dismiss, CSXT and NSR will assess the needs of the case and recommend an alternative procedural schedule that ensures the Board has the most complete and coherent record possible.

II. AMTRAK'S APPLICATION DOES NOT PRESENT A RIPE DISPUTE FOR THE BOARD'S REVIEW.

Amtrak's Application is premature in two respects. First, Amtrak's Application does not present a ripe dispute under 49 U.S.C. § 24308(e) because CSXT and NSR have not refused to provide the proposed Gulf Coast service, the parties have not completed their agreed upon RTC study, and the Application lacks a rigorous analysis and explanation of the infrastructure Amtrak believes is necessary for the new passenger service. Second, Amtrak has not secured the support of key stakeholders to provide funding for or otherwise participation in this state-sponsored route. For both of these reasons, the Application does not yet present a ripe dispute for the Board's review.

A. Amtrak's Application Is Not Ripe Under 49 U.S.C. § 24308(e).

To properly invoke the Board's jurisdiction under 49 U.S.C. § 24308(e), Amtrak must show that a rail carrier has "not agree[d] to provide, or allow[ed] Amtrak to provide, for the operation of additional trains over a rail line of the carrier."[12] CSXT and NSR have not refused to permit the proposed new Gulf Coast service; rather, they have entered into a joint operational study that the parties agreed would be completed prior to the commencement of new passenger service so the parties can determine what infrastructure is required to support that service. The proposed new Gulf Coast service should not commence prior to the completion

[12] *Id.*

of the joint RTC study, so the parties understand how to mitigate the impacts of this proposed new service on existing freight customers while also meeting the minimum OTP standard prescribed by law.

1. An RTC Study Is Essential To Understanding What Infrastructure is Needed to Support Gulf Coast Service.

Amtrak's proposed Gulf Coast service will operate between New Orleans and Mobile. The proposed route is complicated. It is single-tracked in most places, and there are multiple drawbridges that open on marine traffic demand because marine traffic has priority over all rail traffic, freight and passenger alike.[13] And the New Orleans endpoint of this service route is a "critical link in the east-west distribution of freight traffic" where six of the seven Class I railroads and one short line railroad all converge.[14] And "within one 3.3-mile segment of [the] anticipated new route, there are three different dispatching entities (Amtrak, NSR, and CSXT)."[15]

All of these factors indicate that there is a strong possibility that more infrastructure will be needed to support the addition of passenger service on this line. Amtrak's suggestion that it merely wants to "restore" prior passenger service that operated over this line is not accurate.[16] Prior to 2005 and Hurricane Katrina, Amtrak operated a long-distance train between Los Angeles and Orlando, known as

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[13] Ex. F – GULF COAST PASSENGER SERVICE IMPLEMENTATION STUDY AND COST ESTIMATE ("HNTB 2018 STUDY"), HNTB Corp., at 11, 13 (Dec. 2018); Application, App'x B – GULF COAST WORKING GROUP REPORT TO CONGRESS ("GCWG 2017 REPORT"), The Gulf Coast Working Group, at 6 (July 2017), available at https://railroads.dot.gov/elibrary/gulf-coast-working-group-report-congress and https://railroads.dot.gov/sites/fra.dot.gov/files/fra_net/17158/2017-06-27%20Appendices%20-%20Gulf%20Coast%20Report.pdf.

[14] GCWG 2017 REPORT, at 10.

[15] *Id.*

[16] Application at 2.

the Sunset Limited, only three days per week in each direction.[17] Today, Amtrak is requesting *two round-trip passenger trains per day* between New Orleans and Mobile, a substantial increase in passenger train frequency in a complex operating environment.[18] And the proposed Gulf Coast service would operate at different times of day than the Sunset Limited.[19] The Gulf Coast Working Group recognized that "[i]nitiating additional passenger frequencies in this congested area [the New Orleans Gateway] may have operational impacts beyond those already studied separate from this effort, as a result of the occupation of the terminal area track that is otherwise used by these freight carriers on through and connecting routes, and in order to interchange traffic with each other."[20]

Moreover, both § 24308 and regulations promulgated by the Federal Railroad Administration ("FRA") impose a minimum 80% customer OTP standard for all passenger rail service.[21] It is significantly more challenging to achieve an 80% customer OTP standard than an end-point OTP standard, and the Sunset Limited did not operate under this higher standard 16 years ago.[22] A host railroad's failure to meet this 80% customer OTP standard for two consecutive calendar quarters

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[17] Ex. G – REPORT ON OPERATIONS MODELING ANALYSIS FOR IMPLEMENTING PASSENGER RAIL SERVICE ON CSX LINES IN THE GULF COAST CORRIDOR, HDR Engineering, Inc., at 4 (Aug. 11, 2016).

[18] Application, App'x A.

[19] *Compare* GCWG 2017 REPORT, at 14–15 *with* Application, App'x A.

[20] GCWG 2017 REPORT, at 10.

[21] 49 U.S.C. § 24308(f)(1); Metrics and Min Standards for Intercity Passenger Rail Service, 85 Fed. Reg. 72971, 73001 (Nov. 16, 2020), codified at 49 C.F.R. Part 273.

[22] Amtrak relies heavily on the GCWG 2017 Report, but ignores that it never evaluated OTP (while recognizing it was an important "next step"). GCWG 2017 REPORT, at 29. The RTC Study Agreement was designed in part to take that next step by evaluating OTP. *See* Ex. E – RTC Study Agreement, at 5 (Jan. 24, 2020).

could result in a Board investigation that could result in damages.[23] It is therefore critical that an RTC study be completed to ascertain what additional infrastructure is necessary to ensure this OTP standard is attainable without unreasonably impairing freight transportation.

2. Amtrak, CSXT, and NSR Committed to Stakeholders To Complete the RTC Study, and Amtrak Has No Good Reason to Refuse to Do So.

All of these issues informed the parties' decision to conduct a joint RTC study last year. Amtrak objected to HDR's 2016 study, in part because it was conducted by CSXT alone for the Gulf Coast Working Group (at FRA's request).[24] CSXT, NSR, and Amtrak agreed to conduct a joint study in part to remedy that concern.[25] Amtrak promised affected stakeholders that it would participate in the joint study, and some of these stakeholders like the City of Mobile contributed to funding the study.[26] And still other stakeholders, such as Governor Kay Ivey of Alabama and Councilman Joel Daves of Mobile, Alabama, have conditioned financial support on a thorough study and understanding of the long-term implications of the proposed

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[23] 49 U.S.C. § 24308(f)(1), (2).

[24] *See* GCWG 2017 REPORT, at ES-3–4.

[25] Letter from Senator Richard Shelby, at 2 (explaining that the parties agreed to conduct the RTC study alleviate the concerns of "multiple entities . . . about the potential effect that passenger rail service could have on economic growth and commerce in the region").

[26] *See* Letter from Alabama State Port Authority, at 1 ("[T]he State of Alabama and the City of Mobile funding for the passenger rail service was conditional to the completion of that study."); Ex. I – Resolution in Support of the Southern Rail Commission's Grant Application to the U.S. Department of Transportation Restoration and Enhancement Program No. 60-1147, City of Mobile, Alabama (Feb. 4, 2020) (The Mobile City Council pledged $3.048 million and explained that this support was "contingent upon completion of a freight rail study assessing the full impact that passenger rail service will have on freight activity and the City's determination that the impact can be mitigated.").

Gulf Coast service on freight interests including the Port of Mobile.[27] Yet now Amtrak refuses to renew the RTC Study Agreement when the study is close to completion, despite objections from CSXT and NSR.

Amtrak's own inconsistent positions on what infrastructure is required to support the proposed Gulf Coast service further underscores the need for a completed RTC study. On January 27, 2021, Amtrak proposed to begin operations between New Orleans and Mobile with nothing more than "station-related upgrades," and potentially "some targeted infrastructure improvements" that would be made "after service is restored."[28] But Amtrak's Application makes a different proposal—that in addition to $5.4 million in station restoration work, Amtrak also would fund the $94.8 million in additional infrastructure upgrades identified by FRA and set forth in Table 5 of the Gulf Coast Working Group's 2017 Report to Congress.[29] And even this figure is hard to reconcile with the press release that Amtrak issued on March 16, 2021, claiming that "$45 million of improvements are proposed and funded."[30]

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[27] Letter from Governor Kay Ivey ("Without a completed operational modeling study, Alabama will not commit to providing any financial support to new Gulf Coast passenger service."); Ex. M – John Sharp, *Ivey says questions remain before Alabama can commit to Amtrak's Mobile return*, AL.COM (June 8, 2019), https://www.al.com/news/2019/06/ivey-says-questions-remain-before-alabama-can-commit-to-amtraks-mobile-return.html; Letter from Mobile Councilman Joel Daves, ("I have maintained the position that we must first know how passenger rail would impact the Port of Mobile and freight rail operations along the Gulf Coast corridor. . . . Without a completed impact study, I will continue to opposed the restoration of passenger rail service and any funding which may be sought from the City of Mobile in support of this service.").

[28] Ex. A – Amtrak Letter to CSXT, at 1 (Jan. 27, 2021).

[29] Application at 3 & n.3; *see* GCWG 2017 REPORT, at 30.

[30] Ex. K – *Amtrak seeks authority to begin service between New Orleans and Mobile or have CSX and NS show why they cannot do so*, Amtrak Press Release (Mar. 16, 2021), https://media.amtrak.com/2021/03/amtrak-seeks-to-begin-gulf-coast-service/.

Amtrak's inconsistencies make it difficult to know for certain exactly what it is proposing. But based on its Application, Amtrak appears prepared to argue that the improvements listed in Table 5 of the 2017 Gulf Coast Working Group Report to Congress are all that is needed to support the proposed Gulf Coast service.[31] CSXT and NSR do not know if those 2017 proposals would be sufficient. And neither does Amtrak. As the 2017 Report to Congress acknowledges, "[t]he effectiveness of [FRA's] improvements for on-time performance *has not been validated*" by an RTC or other operational study.[32] Thus, the parties have no way of knowing whether those infrastructure improvements would indeed be enough to make 80% customer OTP achievable without degrading freight service.[33] Nor do the parties know whether these infrastructure improvements would be sufficient to ensure CSXT and NSR meet any additional OTP requirements imposed under their respective operating agreements with Amtrak.

The parties agreed that it was critical to conduct an RTC study to know what infrastructure was required and jointly selected HDR to perform that analysis. If HDR's analysis shows that the Gulf Coast Working Group's recommendations are sufficient to ensure 80% customer OTP without undue degradation of freight service, then CSXT and NSR will commit to allowing the proposed Gulf Coast

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[31] *See* Application at 3, 6 n.12.

[32] GCWG 2017 REPORT, at 29 (emphasis added).

[33] The ramifications of Amtrak's proposed Gulf Coast service extend beyond freight service quality and OTP as portions of the proposed Gulf Coast service route are also part of the Strategic Rail Corridor Network which serves "to ensure DOD's minimum rail needs are identified and coordinated with appropriate transportation authorities." Ex. O – Railroads for National Defense, U.S. Army, Transp. Eng'g Agency (last accessed Mar. 29, 2021), https://www.sddc.army.mil/sites/TEA/Functions/SpecialAssistant/Pages/RailroadsNationalDefense.aspx#:~:text=%E2%80%8B%20The%20Railroads%20for%20National,affecting%20the%20Nation's%20railroad%20system.

service once that work has been completed. Until then, the parties do not know the full impact of the proposed Gulf Coast service, and it is premature for Amtrak to demand an order for that service before the RTC study or an equivalent study is complete.

CSXT and NSR have even offered to pay for completion of the current RTC study performed by HDR,[34] but Amtrak rejected that offer.[35] Amtrak claims both that the study will take too long to complete and that it is "deeply flawed."[36] (It is not clear how Amtrak has already identified "deep[ ] flaw[s]" in a study that is not yet complete.) And its complaints about the study it agreed to do last year lack merit—from complaining about a minor software issue that has already been remedied; to complaining that HDR was using a standard 20-year forecasting timeframe when that was exactly what the contract outlined[37]; to complaining that

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[34] Ex. B – CSXT-NSR Joint Letter to Amtrak, at 2 (Mar. 19, 2021) ("CSXT and Norfolk Southern are prepared to fully fund the completion of HDR's study without any additional contribution from Amtrak.").

[35] Ex. C – Amtrak Letter to CSXT and NSR, at 2 (Mar. 26, 2021) ("Amtrak therefore does not provide the consent requested in your March 19, 2021 letter.").

[36] *Id.* at 1–2. HDR's inability to complete the study within the one-year term set by the RTC Study Agreement is in part a product of the COVID-19 pandemic. The various government shutdowns went into effect just two months into the study term and forced the parties, including HDR, to adapt to sudden and challenging work environment changes. Questions, reviews, and data gathering procedures that would have been addressed with in person meetings pre-pandemic had to take place under ever-changing new rules and limitations.

[37] *Compare* Amtrak Letter at 2 (complaining that the study period should be 2022-2026 rather than a 20-year timeframe) *with* RTC Study Agreement, at 2, 4 (contemplating a "'No Build Case' (representing CSXT and NSR freight operations twenty (20) years in the future") *and* Ex. D – Data Sharing Agreement, Ex. A at 4 (Jan. 24, 2020) (describing the agreed upon simulations as including a Base Case, a No Build Case "representing Existing Passenger Operations, and freight operations, at a point twenty (20) years in the future absent the addition of new passenger trains," and a Future Iteration—"a 'Build Case', consisting of one or more modeling variables, representing the addition of the Proposed SRC Amtrak Service *onto the*

HDR did not share CSXT and NSR data with Amtrak, when the parties purposefully designed the Data Sharing Agreement to protect each party's confidential business information including from disclosure to each other.[38] While CSXT and NSR would not share confidential business data with Amtrak, CSXT did offer to share heatmaps of train movements to help Amtrak schedule its passenger trains. And Amtrak's eleventh hour objection to the 20-year forecasting that it previously agreed to is particularly egregious given that the two previous studies of passenger service along the Gulf Coast—including HDR's 2016 study described in the Gulf Coast Working Group's 2017 Report to Congress that Amtrak is relying on—both modeled new passenger service on freight service forecasted for the year 2040.[39]

Regrettably, CSXT and NSR cannot ask HDR to complete its analysis absent Amtrak's consent without violating the Data Sharing Agreement between CSXT, NSR, and Amtrak.[40] It is fundamentally unreasonable and unfair for Amtrak to demand that the Board order access to CSXT and NSR's rail lines while preventing the completion of the RTC study that Amtrak itself agreed to conduct last year. Conversely, it is eminently reasonable and fair for CSXT and NSR to condition the commencement of the Gulf Coast service upon completion of the RTC study in light of their common carrier and OTP responsibilities and Amtrak's statutory obligation to pay its own way for any requested passenger service.

No Build Case" (emphasis added)).

[38] *Compare* Amtrak Letter at 2 *with* Data Sharing Agreement, at 2–3 ¶¶ 2, 4, 6.

[39] HNTB 2018 STUDY, at 4; HDR 2016 REPORT, at v.

[40] The Data Sharing Agreement, which includes as Exhibit A the HDR Proposal for Operations Simulation Services (Statement of Work), and the RTC Study Agreement are designated "Confidential" and provided to the Board in accordance with the proposed protective order filed jointly by the parties on April 2, 2021.

The Board should not entertain a § 24308(e) application on these facts, where Amtrak is the reason neither the host carriers nor Amtrak itself have the information necessary to know what infrastructure and other conditions are required to allow new passenger service without degrading freight service.[41] If Amtrak persists in refusing to allow the RTC study to be completed by HDR, its Application should be dismissed until such time as Amtrak agrees to follow through with its commitment to complete the RTC study, or at least to step out of the way so that CSXT and NSR can do so.[42]

B. Amtrak Lacks the Requisite State Support For This State-Supported Route.

Indeed, Amtrak's new demand to institute a state-supported Gulf Coast service without completion of the RTC study ignores the wishes of one of the states that would have to support this route. The State of Alabama has stated clearly that it wishes the RTC Study to be completed before Gulf Coast service is implemented.[43]

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[41] Indeed, even if CSXT, NSR, and Amtrak disagreed about the results of the RTC study or about what recommended infrastructure was needed and what it might cost, that disagreement might be more suitable for resolution in a § 24308(a) terms and compensation case than in a § 24308(e) application. *Cf. Application of the Nat'l R.R. Passenger Corp. Under 49 U.S.C. 24309(a)—Springfield Terminal Ry., Bos. & Maine Corp., & Portland Terminal Co.*, FD 33381, 1997 WL 222240, at *1 (S.T.B. served May 6, 1997) (resolving "certain outstanding issues" under § 24308(a) after Congress directed Amtrak to institute passenger service between Boston, Massachusetts and Portland, Maine and after the parties "reached tentative agreement in most areas").

[42] Following the completion of the RTC modeling study, the parties will also have to confer on the engineering work and costing necessary to support the Gulf Coast service. These discussions will include the cost attributable to the modification of existing or construction of new infrastructure as well as the appropriate scope of incremental costs under applicable statutory provisions, Board precedent, and any contracts between the parties.

[43] *See* Letter from Governor Kay Ivey ("An operational modeling study is needed to adequately understand the impact of new Gulf Coast passenger service on freight

It is unclear why Amtrak rushed into litigation without first securing the support of key stakeholders along this state-sponsored service route.

The proposed Gulf Coast service will operate over less than 200 miles of track through Louisiana, Mississippi, and Alabama. This service qualifies as a "State-supported route" because it is a "short-distance corridor[ ] . . . of not more than 750 miles between endpoints, operated by . . . Amtrak."[44] Congress directed states that sponsor such a route to share in the operating costs and encourage on-time performance.[45] While funding for the proposed Gulf Coast service may ultimately come from the Southern Rail Commission ("SRC") and be funded at least in part through federal grants, Alabama is a constituent member of the SRC, and constituent members have traditionally provided funding (or matching funding) to the SRC for passenger service.[46]

As previously mentioned, the State of Alabama has serious reservations about implementation of the proposed Gulf Coast service because of the potential impacts on freight rail transportation in the region. Alabama is particularly concerned that, without infrastructure improvements along the route, the addition of priority passenger service will inhibit the continued growth of the Port of Mobile.

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rail traffic. This study will help to identify what additional infrastructure may be necessary to support passenger service while both preserving the existing level and quality of freight service and accommodating the anticipated growth of freight movement through the Port of Mobile and the region more broadly."); Letter from Senator Richard Shelby, at 2 ("[I]t is essential that a comprehensive analysis be completed that definitively determines the impact such [passenger] service would have on existing freight rail service and the Port of Mobile.").

[44] 49 U.S.C. § 24102(7)(D), (13).

[45] *Id.* § 24712(b), (e).

[46] *See*, *e.g.*, Ex. N – Meeting Minutes of the Southern Rail Commission, at 1 (Mar. 6, 2020) (noting that the SRC received "$33 million of federal funds and $33 million in matched funds from the States of Louisiana and Mississippi and the County of Mobile").

Senator Richard Shelby describes the Port of Mobile as "one of the largest growing seaports in the United States" and "an essential economic driver for the state of Alabama and [the] region."[47] And Governor Kay Ivey explains that the Port of Mobile "has been critical to Alabama's substantial growth in exports in recent years."[48] Alabama has heavily invested in the Port of Mobile as it seeks to compete with other Southern shipping ports and the addition of passenger service without mitigating the impact on freight rail could harm the growth in exports from the State through the Port.[49]

For this reason, Alabama has made clear that it wants the RTC study to be completed. Completing the RTC study or an equivalent study is the way to determine the scope of necessary infrastructure improvements and to obtain Alabama's support for the proposed Gulf Coast service. The Board should dismiss the Application until Amtrak actually secures support from all critical stakeholders in accordance with Congress's wishes.

III. AMTRAK HAS FAILED TO PROVIDE AN ENVIRONMENTAL AND HISTORIC REPORT WITH ITS APPLICATION

Amtrak's proposed Gulf Coast service will require additional infrastructure to ensure such service complies with the OTP standard without unduly degrading freight service. According to the 2017 Gulf Coast Working Group report cited by

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[47] Letter from Senator Richard Shelby, at 2.

[48] Letter from Governor Kay Ivey.

[49] *See* Letter from Alabama State Port Authority, at 1 (explaining that while the Port Authority does not oppose passenger rail into Mobile, it is concerned about the impact of passenger service on freight service given that "over $1.3 billion has been invested in the rail served public seaport terminals and related transportation infrastructure at the Port of Mobile" and "there is over $700 million in active or planned waterborne or surface transportation infrastructure projects to support shipper needs").

Amtrak, the proposed new service will require dozens of miles of new sidings and yard bypass tracks as well as modifications to the drawbridges.[50] These infrastructure projects will occur in a region largely comprised of coastal wetlands, which present immense environmental challenges to any construction project. Indeed, the 2017 Gulf Coast Working Group Report states that a NEPA environmental review will be a "critical next step[ ] . . . in order to progress the restoration of passenger rail service in the Gulf Coast corridor."[51]

NEPA obligates federal agencies to consider the environmental impacts of "major Federal actions significantly affecting the quality of the human environment," and requires officials responsible for such actions to issue a "detailed statement" discussing those environmental impacts, any unavoidable adverse effects of the action, and any potential alternatives that could mitigate environmental disruption.[52] Major federal actions include an agency decision or "[a]pproval of specific projects, such as construction or management activities located in a defined geographic area."[53] Because a Board order granting Amtrak's request is likely to result in multiple major infrastructure enhancements along the Gulf Coast rail corridor, such an order is a textbook major federal action that requires NEPA review.

The Board's procedures for implementing environmental laws like NEPA are set forth in 49 C.F.R. Part 1105. Requests for new passenger service under § 24308, like Amtrak's Application here, are not specifically identified in the categories of

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[50] GCWG 2017 REPORT, at 23–26.

[51] *Id.* at 35–36.

[52] 42 U.S.C. § 4332(C)(i)–(v).

[53] 40 C.F.R. § 1508.1(q)(3)(iv) ("Projects include actions approved by permit or other regulatory decision as well as Federal and federally assisted activities.").

proposed actions listed in § 1105.6. Accordingly, they fall within the section's catchall provision, which provides that "[a]ny other proceeding not listed in paragraphs (a) or (c) of this section" will ordinarily require the preparation of an environmental assessment.[54] The Board's regulations require an Environmental Report to be filed with any qualifying proposed action.[55] The regulation requires any applicant, including Amtrak, to certify that it has "consulted with all appropriate agencies in preparing the report" and given those agencies "a reasonable opportunity to provide meaningful input."[56]

Historically, the Board and its predecessor agency have not needed to conduct an environmental review in § 24308(a) cases because these disputes generally involve an inability to agree on certain terms of service or resolving questions of "reasonable compensation" that either do not require new infrastructure or turn on ministerial actions beyond NEPA's reach.[57] And in the sole § 24308(a) proceeding since the Board's creation where it had to consider the scope of new infrastructure, Congress had already ordered restoration of passenger service between Boston,

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[54] 49 C.F.R. § 1105.6(b)(6).

[55] *Id.* §1105.7(a).

[56] *Id.* §1105.7(c).

[57] 49 U.S.C. § 24308(a)(2); *see*, *e.g.*, *Application of the Nat'l R.R. Passenger Corp. Under 49 U.S.C. § 24308(a)—Union Pac. R.R. and S. Pac. Trans. Co.*, 3 S.T.B. 143, 156 (1998) (concluding that a decision to allow Amtrak to carry certain express traffic "to help sustain its primary passenger operations" did not require an environmental review because the Board was "merely performing a ministerial function, not discretionary action," by "interpreting the statutory limits on Amtrak's express service"); *Minnesota Transfer Ry. Ordered to Provide Services, Tracks and Facilities for the Operations of Trains of the Nat'l R.R. Passenger Corp. and the Establishment of Just and Reasonable Compensation for Such Services, Tracks and Facilities*, 354 I.C.C. 552, 562–63, 572 (1978) (determining that an order requiring, among other things, Amtrak to compensate the host railroad for maintenance and replacement of certain track was "not a major federal action affecting the quality of the human environment").

Massachusetts and Portland, Maine.[58] Thus, the Board was only tasked with "sett[ing] the terms and conditions and, in particular, the price, of the service."[59] And in doing so, the Board concluded that its decision would "not significantly affect either the quality of the human environment or the conservation of energy resources."[60]

This § 24308(e) proceeding is fundamentally different. The Board must exercise its discretion in determining whether and under what conditions to order additional Amtrak trains so as to not "impair unreasonably freight transportation of the rail carrier."[61] Granting Amtrak's request for an order regarding the proposed Gulf Coast service will likely require new infrastructure to avoid impairing unreasonably freight traffic and to ensure the OTP standard is attainable. Even Amtrak says so in its Application.[62] This new infrastructure will lead to multiple construction projects in sensitive environmental areas using federal funds.[63] These facts trigger NEPA's requirement of an environmental review.

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[58] *Springfield Terminal Ry.*, 1997 WL 222240, at *1.

[59] *Id.* at *3 ("It appears to us that the law requires Amtrak to operate the service in question; it requires B & M to provide access; and it requires us, upon request, to set the terms and conditions and, in particular, the price, of the service.")

[60] *Application of the Nat'l R.R. Passenger Corp. Under 49 U.S.C. 24309(a)—Springfield Terminal Ry., Bos. & Maine Corp., & Portland Terminal Co.*, 3 S.T.B. 157, 166–68, 173 (1998).

[61] 49 U.S.C. § 24308(e)(1), (2)(A); *cf. Union Pac. R.R. and S. Pac. Trans. Co.*, 3 S.T.B. at 156 (explaining that environmental review was not required where Congress has "not given [the agency] the discretion to refuse to require landlord carriers to allow Amtrak express cars on their tracks").

[62] *See* Application at 6 n.12.

[63] *See* GCWG 2017 REPORT, at 32–35.

Amtrak's Application also lacks a Historic Report. In compliance with the National Historic Preservation Act,[64] the Board's regulations instruct that any applicant under § 1105.6(a) or (b) "must submit (with its application, petition or notice) [an] Historic Report."[65] The Historic Report must include, among other things, topographic maps, written descriptions of the right-of-way and characteristics of the surrounding area, and photographs and detailed historical information of railroad structures that are 50 years old or older.[66]

The Board's procedures regarding Environmental and Historic Reports "are designed to assure adequate consideration of environmental and energy factors in the Board's decision making" as required by federal law.[67] To complete these reports, Amtrak must state precisely what new infrastructure would be required to support its requested Gulf Coast service. That is a level of detail that Amtrak has thus far sought to avoid providing. This report is necessary to protect critical environmental and historical assets along the Gulf Coast. But requiring this report will also serve the valuable function of helping to bring clarity to a request which Amtrak has continued to shroud in opacity.

This request for greater environmental scrutiny is not new to the Gulf Coast passenger rail discussion. In the 2005 Gulf Coast High Speed Rail Corridor Development Plan, the environmental difficulties presented by pervasive wetlands, large portions of track built upon raised berms, and the many bridges that dot the rail corridor were well catalogued.[68] Likewise, the 2018 HNTB study prepared for

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[64] 54 U.S.C. §§ 306101–306114 (formerly 16 U.S.C. 470).

[65] 49 C.F.R. § 1105.8(a).

[66] *Id.* § 1105.8(d).

[67] *Id.* § 1105.1.

[68] *See generally* Ex. H – GULF COAST HIGH SPEED RAIL CORRIDOR DEVELOPMENT PLAN, Southern Rapid Rail Transit Commission (Jan. 2005).

the Florida Department of Transportation notes that "[p]rojects along the coast from Pascagoula to New Orleans are at high risk for additional environmental mitigation and construction cost."[69] And HDR's responsive proposal to Amtrak for the RTC study included a high-level environmental review of the conceptual infrastructure that may be necessary in order to introduce the desired Gulf Coast service.[70] These environmental features make railroading a difficult proposition along the Gulf Coast and require careful balancing to ensure that environmental resources are protected. Economic and environmental uncertainties such as these make it all the more important that the RTC study be completed. In light of Amtrak's failure to address these crucial environmental concerns in its Application, the Board should dismiss the Application without prejudice.

IV. AMTRAK'S REQUEST FOR AN "INTERIM" ORDER ALLOWING IT IMMEDIATE ACCESS TO CSXT AND NSR RAIL LINES SHOULD BE DENIED WITH PREJUDICE

Amtrak touts § 24308(e) as "an expedited procedure for making necessary modifications or additions to its operations" and then seeks to circumvent that already accelerated process entirely with an "interim" order.[71] This it cannot do. The statute does not authorize the Board to order a host carrier to provide Amtrak access to its rail lines and related infrastructure in advance of an order allowing Amtrak to run passenger trains on those rail lines in the first instance. The Board may order a rail carrier "to provide or allow for the operation of the requested trains on a schedule based on legally permissible operating times" only "*[a]fter* a hearing

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[69] HNTB 2018 STUDY, at 18.

[70] Data Sharing Agreement, Ex. A at 2.

[71] Application at 5–6 (quoting H.R. REP. NO. 96-1041, at 42 (1980) (Conf. Rep.)).

on the record.[72] And in reaching a decision, the Board "shall consider . . . whether an order would impair unreasonably freight transportation of the rail carrier."[73] Granting Amtrak's request for an "interim" order before a hearing has been held or any findings have been made is inconsistent with the statutory scheme.

Even assuming § 24308(e) does permit the Board to issue an interim order allowing Amtrak "access," Amtrak identifies no statutory provision authorizing it to alter infrastructure on another rail carrier's lines without that rail carrier's consent or involvement. The Board's authority is limited to determining whether or not to order a host carrier to "provide or allow for the operation of the requested trains," to "establish[ ] scheduled running times," and to resolve any disputes about compensation under § 24308(a).[74] And the Board may investigate poor OTP metrics and award damages for infrastructure improvements.[75] But Amtrak identifies no statutory justification for an order permitting it to physically alter another rail carrier's property.

Even more troubling is the fact that Amtrak inadequately explains precisely what "interim" access it wants or the logistics of how it plans to accomplish the proposed work. Amtrak says only that it plans "to make the improvements recommended in the Gulf Coast Working Group's report, allocate and ready the equipment, train and qualify the employees, and take other steps necessary to ensure the safe operation of the Gulf Coast Service."[76] As previously noted, the Gulf Coast Working Group's report sets forth the FRA's proposed infrastructure

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[72] 49 U.S.C. § 24308(e)(1) (emphasis added).

[73] *Id.* § 24308(e)(2)(A).

[74] *Id.* § 24308(e)(1), (2)(B), (3).

[75] *See id.* § 24308(f).

[76] Application at 6.

improvements and other recommendations.[77] But this amounts to a wish list in a nearly five-year-old working group report that lacks the critical detail necessary for the execution of projects at this magnitude in less than one year.

Amtrak provides no timeline for when each of these infrastructure projects will be executed. The Application does not specify which projects Amtrak hopes to complete before commencing Gulf Coast service by its ambitious goal of January 1, 2022 and which projects Amtrak intends to put off until 2022 or later.[78] Amtrak's Application and the Gulf Coast Working Group's report are both devoid of engineering drawings, environmental assessments, or plans for accomplishing infrastructure alterations such as turnout modifications and at-grade crossing improvements and closures in a manner than minimizes disruption to rail, road, and marine traffic.[79] And Amtrak does not identify what federal, state, and local permits will be required or whether any such permits have been secured.

It is also unclear who will perform these infrastructure improvements. If Amtrak intends to hire its own work crews to make these infrastructure modifications, this will raise significant labor issues, because CSXT and NSR are parties to collective bargaining agreements that govern which employees have the right to upgrade and maintain rail lines. If Amtrak intends to commandeer CSXT and NSR work crews, that raises a host of labor and due process issues and begs the question of who will pay for these work crews and what steps will be taken to

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[77] GCWG 2017 REPORT, at 32–38; *id.*, App'x L.

[78] The Gulf Coast Working Group suggests that only "the minimum improvements needed to restore service" need to be made initially and any remaining capital improvements will be made "as additional funding becomes available." GCWG 2017 REPORT, at 31.

[79] *See*, *e.g.*, *id.*, App'x J at J-28, J-45, J-101, J-163, J-184, (summarizing Amtrak's station inspections between New Orleans and Mobile and repeatedly noting that the project design and construction budgets "[a]ssumes no environmental work").

ensure adequate work crew coverage for emergency and routine maintenance issues unrelated to the proposed Gulf Coast service construction. Each of these logistical challenges go unaddressed in Amtrak's blithe request for an "interim order" allowing it to make whatever "preparations" it wishes to undertake on CSXT and NSR's lines.

Finally, Amtrak provides no justification as to why the Board should hastily order "interim" access to meet an arbitrary deadline for commencing passenger service. Amtrak provides no explanation for selecting a January 1, 2022 start date, which appears to be an arbitrary deadline. This arbitrary deadline is even more perplexing in light of Amtrak's November 2020 statement that "[b]usiness remains at about 25% of pre-COVID levels, and based on the current forecast, ridership and revenue is expected to improve to about 37% of pre-COVID levels by the end of fiscal year 2021 [in September]."[80] This only underscores the Application's lack of a serious explanation for the rush to commence service on January 1, 2022 without undertaking the appropriate due diligence and planning, including completion of the RTC study or an equivalent study.

Amtrak has not sufficiently justified why the Board should grant an order for access to CSXT and NSR's rail lines for the proposed Gulf Coast service, let alone for the extraordinary relief of an interim order that would permit it to immediately begin construction work on CSXT and NSR's rail lines. And Amtrak's request for such an interim order is plainly a major federal action that requires a complete NEPA analysis. But as noted above, Amtrak has not even submitted the Environmental and Historic Report that would allow the Board to begin such an

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[80] Ex. L – *Urgent funding needed for continued service*, Amtrak Press Release (Nov. 23, 2020), https://media.amtrak.com/2020/11/amtrak-fiscal-year-2020-prioritized-customer-safety-advanced-infrastructure-and-fast-tracked-technology/.

analysis. Congress did not authorize "interim" orders under § 24308(e) and the Board should thus deny Amtrak's request for an interim order with prejudice.

V. AMTRAK'S PROPOSED PROCEDURAL SCHEDULE IS NOT APPROPRIATE.

The Board should dismiss Amtrak's request for an interim order outright and with prejudice, and dismiss the remainder of the Application without prejudice. But if the Board instead denies CSXT and NSR's motion to dismiss, it should not adopt Amtrak's unfair and counterintuitive proposed schedule.

Amtrak's demand that CSXT and NSR file opening evidence in 30 days with no discovery is absurdly unfair. The Board's rules provide no basis for such a slanted proposal. In combination with Amtrak's unilateral cancellation of the RTC study and refusal to permit CSXT and NSR to complete it, Amtrak's demand for CSXT and NSR to immediately present their evidence suggest that its schedule was intentionally calculated to prejudice CSXT and NSR. And Amtrak's suggestion that the parties should somehow take discovery in the midst of the briefing schedule has no basis in the Board's procedural rules or in any accepted litigation practice. Such a schedule will be inefficient and result in a confusing and convoluted record for the Board's review. Amtrak's proposed procedural schedule further highlights the rushed and premature nature of its Application and request for relief.

If the Board denies the motion to dismiss, CSXT and NSR reserve the right to submit a procedural schedule counter-proposal that is fair and accords with the requirements of the statute. The counter-proposal will be based on a careful assessment of the needs of the case, including the possibility that CSXT and NSR will have to conduct their own operations modeling from scratch. The statute also calls for a hearing on the record.[81] The parties will thus need to confer with each

[81] 49 U.S.C. § 24308(e)(1).

other to determine a proposed format for such a hearing to present to the Board. The hearing format also could be discussed with the Board or a Board representative at a prehearing conference under 49 C.F.R. § 1113.4.

VI. CONCLUSION

CSXT and NSR respectfully request that the Board dismiss without prejudice Amtrak's Application as unripe and procedurally deficient. CSXT and NSR have not refused the proposed Gulf Coast passenger service as required for jurisdiction under § 24308(e), Amtrak lacks the support of key stakeholders, and the Application does not include the requisite Environmental and Historic Report. Alternatively, CSXT and NSR ask that the Board hold Amtrak's Application in abeyance for as long as Amtrak requires to address these deficiencies. And Amtrak's request for an interim order for access to CSXT and NSR's rail lines to begin preparation work for the proposed Gulf Coast service is contrary to law and should be denied with prejudice.

Respectfully submitted,

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Counsel for Norfolk Southern Railway Company

Dated: April 5, 2021

CERTIFICATE OF SERVICE

I hereby certify that on this 5th day of April, 2021, a copy of the foregoing Motion to Dismiss was served by email on the service list to Finance Docket No. 36496.

/s/ Raymond A. Atkins
Raymond A. Atkins
SIDLEY AUSTIN LLP

EXHIBIT A

NATIONAL RAILROAD PASSENGER CORPORATION
30th and Market Streets, Box 20, Philadelphia, PA 19104

January 27, 2021

Andy Daly
Senior Director – Passenger Operations
CSX Transportation
3019 Warrington Street J500
Jacksonville, FL 32254

Re: Restoration of Gulf Coast Service

Dear Andy:

I write with respect to restoration of the Gulf Coast service between New Orleans, LA and Mobile, AL. As you are aware, the RTC Study Agreement entered into on January 24, 2020, by Norfolk Southern Corporation ("NS"), CSX Transportation, Inc. ("CSXT"), and Amtrak expired on January 23, 2021. Due to concerns regarding progress made to date, including concerns regarding data transparency as raised in my letter to you and NS of August 3, 2020, Amtrak does not intend to renew the RTC Study Agreement.

As you are aware, Amtrak previously operated service along the Gulf Coast over CSXT's facilities until Hurricane Katrina halted service in 2005. Restoring reliable passenger rail service in this region is critical, as Congress recognized in the FAST Act of 2015, when it directed the creation of the Gulf Coast Working Group. It is now fifteen years since Hurricane Katrina caused Amtrak to cease service and five years since the Working Group first convened, and there is still no intercity passenger rail service for the Gulf Coast.

By this letter, we are requesting CSXT's agreement to Amtrak's restoration of the Gulf Coast service between New Orleans and Mobile beginning on or about January 1, 2022. Amtrak has proposed that the initial schedule for this twice-daily service be as shown in the attached Exhibit A, and the payments be in accordance with Section 5.1.B of the Agreement Between the National Railroad Passenger Corporation and CSX Transportation, Inc., dated June 1, 1996, as amended ("the Amtrak/CSXT Operating Agreement"), as shown in the attached Exhibit B.

It is Amtrak's position that the only infrastructure investments required prior to restoration of service are the station-related upgrades previously recommended by the Gulf Coast Working Group. Amtrak commits to working with railroad, regional, state, and local agencies to make those upgrades prior to the start date for service. Amtrak also acknowledges that—after service is restored—some targeted infrastructure improvements could benefit the ongoing service by reducing trip times. Amtrak commits to working with NS and CSXT to secure funding for the additional improvements previously identified by the Gulf Coast Working Group for these purposes.

In order to ensure sufficient time to complete the necessary safety and operational preparations for service launch on or about January 1, 2022, Amtrak requests that CSXT provide its written agreement for operation of the service by no later than March 15, 2021. As noted above, this is a renewed request and we stand ready to discuss any additional planning or preparation CSXT believes is necessary to achieve the start of service on or about January 1, 2022, and thereafter, ensuring service performance consistent with the recently promulgated metrics and minimum standards for intercity passenger rail, as CSXT is doing for several current Amtrak services. In making this request, Amtrak reserves all rights, whether arising under the Amtrak/CSXT Operating Agreement or otherwise, and Amtrak asks for a conversation regarding this request between appropriate CSXT and Amtrak senior leadership during the week of February 8th. I will be in touch to schedule this session.

We look forward to working with CSXT to operate this service. Thank you in advance for your cooperation on this very important initiative.

Sincerely,

Jim Blair
Sr. Director Host Railroads

cc:
Dennis Newman	-	Amtrak
Ray Lang	-	Amtrak
Christine Lanzon	-	Amtrak
Jackie Meredith-Batchelor	-	Amtrak
Nina Irish	-	Amtrak
Kyle Montgomery	-	Amtrak

Exhibit A

Gulf Coast Service
Train 23

	Days of Operation	Effective 1/1/22 Daily	Remarks and Changes
Dp	Mobile, AL	6:30 AM	
Dp	Pascagoula, MS	7:13 AM	
Dp	Biloxi, MS	7:43 AM	
Dp	Gulfport, MS	8:01 AM	
Dp	Bay St. Louis, MS	8:27 AM	
Ar	New Orleans, LA	9:53 AM	

Schedule Skeleton - Gulf Coast Service Westbound AM (Daily) — 1-Jan-22

RR	Mileage	Services	PRT	Recovery Minutes	Misc. Adjust.	Dwell Minutes	Arrive	Depart	Station
CSX	0.0							6:30 AM	Mobile, AL
CSX	39.9		37	4		2	7:11 AM	7:13 AM	Pascagoula, MS
CSX	60.4		22	6		2	7:41 AM	7:43 AM	Biloxi, MS
CSX	72.5		15	1		2	7:59 AM	8:01 AM	Gulfport, MS
CSX	87.6		21	3		2	8:25 AM	8:27 AM	Bay St. Louis, MS
NS	136.8		48	5			*9:20 AM*	*9:20 AM*	XNO - *N.O.T. Jct*
AMT	140.5		7	12			*9:39 AM*	*9:39 AM*	XEJ - *East City Jct*
AMT	144.1	T,E,FA,I,W,G	9	5			9:53 AM		New Orleans, LA

Total Pure Run	Total Recovery Minutes	Total Misc. Adjust.	Total Dwell	Total Schedule Time
159	36	0	8	203

Gulf Coast Service
Train 24

	Days of Operation	Effective 1/1/22 Daily	Remarks and Changes
Ar	New Orleans, LA	7:35 AM	
Dp	Bay St. Louis, MS	8:54 AM	
Dp	Gulfport, MS	9:21 AM	
Dp	Biloxi, MS	9:40 AM	
Dp	Pascagoula, MS	10:14 AM	
Dp	Mobile, AL	10:58 AM	

Schedule Skeleton - Gulf Coast Service Eastbound AM (Daily) — 1-Jan-22

RR	Mileage	Services	PRT	Recovery Minutes	Misc. Adjust.	Dwell Minutes	Arrive	Depart	Station
AMT	0.0	T,E,FA,I,W,G,X						7:35 AM	New Orleans, LA
NS	3.4		9	9			*7:53 AM*	*7:53 AM*	XEJ - *East City Jct*
CSX	7.1		7				*8:00 AM*	*8:00 AM*	XNO - *N.O.T. Jct*
CSX	56.5		48	4		2	8:52 AM	8:54 AM	Bay St. Louis, MS
CSX	71.4		20	5		2	9:19 AM	9:21 AM	Gulfport, MS
CSX	84.1		17			2	9:38 AM	9:40 AM	Biloxi, MS
CSX	104.1		22	10		2	10:12 AM	10:14 AM	Pascagoula, MS
CSX	144.1		37	7			10:58 AM		Mobile, AL

Total Pure Run	Total Recovery Minutes	Total Misc. Adjust.	Total Dwell	Total Schedule Time
160	35	0	8	203

Gulf Coast Service
Train 25

	Days of Operation	Effective 1/1/22 Daily	Remarks and Changes
Dp	Mobile, AL	4:30 PM	
Dp	Pascagoula, MS	5:13 PM	
Dp	Biloxi, MS	5:43 PM	
Dp	Gulfport, MS	6:01 PM	
Dp	Bay St. Louis, MS	6:27 PM	
Ar	New Orleans, LA	7:53 PM	

Schedule Skeleton - Gulf Coast Service Westbound PM (Daily) — 1-Jan-22

RR	Mileage	Services	PRT	Recovery Minutes	Misc. Adjust.	Dwell Minutes	Arrive	Depart	Station
CSX	0.0							4:30 PM	Mobile, AL
CSX	39.9		37	4		2	5:11 PM	5:13 PM	Pascagoula, MS
CSX	60.4		22	6		2	5:41 PM	5:43 PM	Biloxi, MS
CSX	72.5		15	1		2	5:59 PM	6:01 PM	Gulfport, MS
CSX	87.6		21	3		2	6:25 PM	6:27 PM	Bay St. Louis, MS
NS	136.8		48	5			*7:20 PM*	*7:20 PM*	XNO - *N.O.T. Jct*
AMT	140.5		7	12			*7:39 PM*	*7:39 PM*	XEJ - *East City Jct*
AMT	144.1	T,E,FA,I,W,G	9	5			7:53 PM		New Orleans, LA

Total Pure Run	Total Recovery Minutes	Total Misc. Adjust.	Total Dwell	Total Schedule Time
159	36	0	8	203

Gulf Coast Service
Train 26

	Days of Operation	Effective 1/1/22 Daily	Remarks and Changes
Dp	New Orleans, LA	5:31 PM	
Dp	Bay St. Louis, MS	6:55 PM	
Dp	Gulfport, MS	7:22 PM	
Dp	Biloxi, MS	7:41 PM	
Dp	Pascagoula, MS	8:13 PM	
Dp	Mobile, AL	8:54 PM	

Schedule Skeleton - Gulf Coast Service Eastbound PM (Daily) — 1-Jan-22

RR	Mileage	Services	PRT	Recovery Minutes	Misc. Adjust.	Dwell Minutes	Arrive	Depart	Station
AMT	0.0	T,E,FA,I,W,G,X						5:31 PM	New Orleans, LA
NS	3.4		9	9			*5:49 PM*	*5:49 PM*	XEJ - *East City Jct*
CSX	7.1		7				*5:56 PM*	*5:56 PM*	XNO - *N.O.T. Jct*
CSX	56.5		48	9		2	6:53 PM	6:55 PM	Bay St. Louis, MS
CSX	71.4		20	5		2	7:20 PM	7:22 PM	Gulfport, MS
CSX	84.1		17			2	7:39 PM	7:41 PM	Biloxi, MS
CSX	104.1		22	8		2	8:11 PM	8:13 PM	Pascagoula, MS
CSX	144.1		37	4			8:54 PM		Mobile, AL

Total Pure Run	Total Recovery Minutes	Total Misc. Adjust.	Total Dwell	Total Schedule Time
160	35	0	8	203

Exhibit B

CONFIDENTIAL

Appendix III, Table 1

Current Cost Summary					
(1)	(2)	(3)	(4)	(5)	(6)
App IV Item No.	Description	Latest Update Reference	Current Amount	Unit of Cost	Price Level Method
16	Incremental Track Maintenance	Original	$1.064	per TM	D
22	Other System Train Costs	Original	$0.0958	per TM	D

Appendix V -- Performance Payments											
Train No	Origin	Departure Time	Arrival Time	Checkpoints		Scheduled Time From Origin	Recovery Time Base	Basic Tolerance	Allowed Station Dwell	2020-2021 Performance Rate ($)	Item 10 Appendix IV Train Miles
23	Mobile, AL (MOE)	6:30	9:20	N.O.T. Jct. (XNO)		170	18	5	8	$4,514	136.8
24	N.O.T. Jct. (XNO)	8:00	10:58	Mobile, AL (MOE)		178	18	5	8	$4,514	136.8
25	Mobile, AL (MOE)	16:30	19:20	N.O.T. Jct. (XNO)		170	18	5	8	$4,514	136.8
26	N.O.T. Jct. (XNO)	17:56	20:54	Mobile, AL (MOE)		178	18	5	8	$4,514	136.8

EXHIBIT B

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March 19, 2021

By Email

Jessica Ring Amunson
Jenner & Block LLP
1099 New York Avenue, N.W.
Washington, DC 20001
jamunson@jenner.com

Re: *Application of Nat'l R.R. Pass'r Corp. Under 49 U.S.C. § 24308(e)*, STB Finance Docket No. 36496—Completion of HDR's Study

Dear Ms. Amunson:

Sidley Austin LLP has been retained to represent CSX Transportation, Inc. ("CSXT") and Baker and Miller PLLC has been retained to represent Norfolk Southern Railway Company ("Norfolk Southern") in connection with the application filed by Amtrak in the above-referenced docket, seeking an order from the Surface Transportation Board ("STB") for new passenger service along the Gulf Coast corridor between New Orleans, LA and Mobile, AL.

As you are likely aware, the parties entered into two agreements in January 2020 to facilitate the reintroduction of this passenger service: a RTC Study Agreement and a Data Sharing Agreement. The purpose of these agreements was to engage HDR Engineering, Inc. ("HDR") to study the impact of new passenger service along the Gulf Coast corridor while protecting each railroad's confidential business information. HDR conducted a Rail Traffic Controller ("RTC") analysis to identify any additional infrastructure needed to support the requested new service.

The study by HDR was nearly complete. HDR finished all but the final phase of the analysis—testing multiple iterations of the proposed passenger service against the "base" and "no build" cases—but Amtrak elected not to renew the RTC Study Agreement when it expired in January 2021, over the objections of CSXT, Norfolk Southern, and interested freight rail stakeholders in the region.

It is critically important that HDR finish the RTC study. The study was commissioned by Amtrak, CSXT, and Norfolk Southern to assess the impact of Amtrak's proposed new passenger service on freight traffic, and its results will be highly relevant to the STB's mandate under 49 U.S.C. §24308(e) to determine whether an order to institute service on Amtrak's proposed terms "would impair unreasonably freight transportation of the rail carrier[s]." CSXT and Norfolk Southern are prepared to fully fund the completion of HDR's study without any additional contribution from Amtrak. Nor is any information needed from Amtrak, as the proposed schedules for the new service are described in your application.

However, we need Amtrak's written consent to (1) reengage HDR to complete the study and (2) to share the results with the STB. The Data Sharing Agreement does not permit our clients to unilaterally direct HDR to complete the study, using the data already provided by the parties and the incomplete RTC work product created under the RTC Study Agreement. Nor could they share the results with any third party, including the STB. CSXT and Norfolk Southern will continue to abide by terms of the Data Sharing Agreement during the completion of the study. We will also safeguard the confidential data of all parties by entering into a standard STB protective order that would designate each party's confidential business data used in the RTC study as Highly Confidential. And we will share with Amtrak the final results and all underlying RTC model work product.

We request Amtrak quickly confirm in writing that (1) CSXT and NS may reengage HDR to complete the halted study, using the unfinished RTC modeling, and (2) CSXT and NS may share the final results with the STB under a standard agency protective order without violating the parties' Data Sharing Agreement. Given Amtrak's request for "expedited consideration," we ask for Amtrak's answer by March 26, 2021.

Best regards,

/s/ Raymond Atkins

William A. Mullins	Raymond A. Atkins, Ph.D.
Baker and Miller PLLC	Sidley Austin LLP
Counsel to Norfolk Southern	Counsel to CSXT

EXHIBIT C

Jessica Ring Amunson
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March 26, 2021

VIA EMAIL

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Re: *Application of National Railroad Passenger Corp. Under 49 U.S.C. § 24308(e)*, STB Finance Docket No. 36496

Dear Messrs. Atkins and Mullins:

Thank you for your letter of March 19, 2021, on behalf of your respective clients CSX Transportation, Inc. ("CSX") and Norfolk Southern Railway Company ("NS").

When Amtrak, CSX, and NS entered into the Rail Traffic Controller ("RTC") Study Agreement and Data Sharing Agreement in January 2020, Amtrak did so with the understanding that the RTC Study would provide "useful input for the reintroduction" of the Gulf Coast Service and that the parties would work "jointly" with the consultant, HDR Engineering, Inc. ("HDR"), on the analysis. The parties also understood that the one-year term of the RTC Study Agreement would provide more than sufficient time for the analysis to be completed.

As you are aware, the RTC Study Agreement expired on January 23, 2021 without the analysis having been completed. Your letter requests Amtrak's consent to allow CSX and NS to reengage HDR to complete the analysis, asserting that "[t]he study by HDR was nearly complete," and that "HDR finished all but the final phase of the analysis." However, neither statement is correct. Based on HDR's estimates of the remaining work, as well as Amtrak's experience with the pace of work during the year the study was being conducted, Amtrak estimates that completion would take a minimum of 28 to 36 additional weeks.

Moreover, much of the work done before the RTC Study Agreement expired was severely flawed. Indeed, less than two weeks before the expiration date—on January 12, 2021—HDR notified Amtrak, CSX, and NS that due to a software error, a significant portion of HDR's work to date was incorrect and would need to be redone, further delaying the completion of the study. With significant work to be done (or redone), and no guaranteed end date, the study could hardly be called "nearly complete."

Even more critically, however, it became abundantly apparent to Amtrak during the course of the year-long RTC Study Agreement that the HDR analysis was not going to provide the "useful input for the reintroduction" of Gulf Coast Service that Amtrak had envisioned. Clearly, CSX and NS had a very different conception of what it meant to work "jointly" on the study than did Amtrak. As Amtrak detailed in its August 3, 2020 letter to CSX and NS, because CSX and NS designated virtually all of the information they shared with HDR as commercially sensitive and therefore refused to share it with Amtrak, it became impossible for Amtrak to properly verify existing conditions or the reasonableness of any modeling inputs or outputs. At CSX's and NS's request, Amtrak provided CSX and NS with a list of the input information Amtrak would need in order to verify the model's outputs, and Amtrak committed to working with CSX and NS to ensure that the confidentiality of the information would be maintained. Unfortunately, CSX and NS refused to share such information.

In its August 3, 2020 letter, Amtrak further noted that CSX's and NS's insistence that all future iterations must be modeled against the "No Build Case" reflecting speculative forecast conditions in the year 2039 would artificially increase the amount of infrastructure supposedly required to mitigate the addition of even a single round trip passenger train. Instead, Amtrak proposed that future iterations be modeled against the Base Case as that would more accurately show the impact of proposed Amtrak service in the 2022 to 2026 timeframe. Once again, CSX and NS refused.

Accordingly, given the parties' significant disagreement on the proper conduct of the study, the unwillingness of NS and CSX to permit a collaborative, open, and transparent study, and the length of time that would be needed to complete a proper study, Amtrak does not believe it would be useful to reengage HDR to complete what is already a deeply flawed study or to share the results of such a flawed study with the Surface Transportation Board. Amtrak therefore does not provide the consent requested in your March 19, 2021 letter. Amtrak understands that CSX and NS bear the burden under 49 U.S.C. § 24308(e) of demonstrating to the Board that an order to institute service on Amtrak's proposed terms "would impair unreasonably freight transportation of the rail carrier[s]," and Amtrak looks forward to the opportunity to examine any evidence CSX and NS may choose to present to satisfy their burden under the processes provided by the Board.

Sincerely,

/s/ Jessica Ring Amunson
Jessica Ring Amunson

EXHIBIT D

DATA SHARING AGREEMENT

Marked and filed as CONFIDENTIAL
pursuant to the protective order.

EXHIBIT E

RTC STUDY AGREEMENT

Marked and filed as CONFIDENTIAL
pursuant to the protective order.

EXHIBIT F

GULF COAST PASSENGER SERVICE IMPLEMENTATION STUDY AND COST ESTIMATE

PREPARED FOR

Florida Department of Transportation

BY

HNTB Corporation

December 2018

HNTB

GULF COAST PASSENGER SERVICE IMPLEMENTATION STUDY AND COST ESTIMATE

HNTB Corporation

Report Prepared By:

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EXECUTIVE SUMMARY

There have been several efforts to restore passenger rail service along the Gulf Coast since its suspension in 2005. A proposal for passenger service to run from New Orleans, LA to Orlando, FL and separately between New Orleans, LA and Mobile, AL is being considered. In 2016 HDR was commissioned by CSX, at the Federal Railroad Administration's (FRA) direction, to complete a study that found up to $2.3 billion of infrastructure is required to bring passenger rail service back onto the CSX network. Alternatively, the Gulf Coast Working Group (GCWG), estimated that $91 million in infrastructure is required to reinstate and sustain Amtrak service along the same corridor. Due to the disparity in cost estimates, the Florida Department of Transportation commissioned HNTB to review the materials from the aforementioned reports and provide an independent study and cost estimate.

HNTB completed an operational simulation model focusing on the CSX owned portion of the corridor. The study provides an independent determination of the infrastructure projects necessary to sustain passenger rail service. The three scenarios considered were:

- No Build: The required infrastructure to support projected freight only growth in 2040.
- Build A Scenario: The required infrastructure to sustain daily regional passenger rail service between New Orleans and Mobile and restoration of daily service between New Orleans and Orlando as compared to the "No Build."
- Build A1 Scenario: The required infrastructure to sustain the restoration of daily passenger rail service between New Orleans and Orlando as compared to the "No Build."

Infrastructure projects were identified for each scenario to support on-time performance for the Amtrak trains while not placing an undue burden on CSX freight traffic. The route requires a significant investment in the construction of new tracks in difficult to build locations. The mileage of proposed and existing second mainline track or sidings in each scenario is detailed in Table ES-1. In addition to new track construction, projects include improvements to moveable bridges, track speed, and train control systems.

Table ES-1: Miles of second mainline track in each scenario

	2nd Track[1] (miles)
2016 Existing	93.4
No Build	133.8
Build A	266.1
Build A1	252.0

1 – Miles of double track and passing sidings

Cost estimates were developed for each proposed project. HNTB found the total cost to be $1,346M for the Build A Scenario and $1,247M for the Build A1 Scenario. When compared to

previous estimates, the required costs were found to be less than that of the CSX estimate for the Build A and A1 Scenarios, while being more expensive than the GCWG estimate (Table ES-2). Costs do not include new or upgraded stations, grade separations, station only tracks, train sets or ongoing operating funding.

Table ES-2: Final Infrastructure Project Cost ($M)

GCWG	$91
CSX BUILD A[1]	$2,254
HNTB BUILD A	$1,346
CSX BUILD A1[1]	$2,057
HNTB BUILD A1	$1,247

1 – The upper limit of CSX cost estimate

The identified projects and the corresponding costs are based on maintaining fluid and reliable operations from today's current freight traffic volume to the anticipated increase in freight volume in the year 2040. To meet the required performance for today's traffic volume, only a portion of the identified projects are required. As such, initial implementation costs could be reduced by building these initial projects and then later constructing the remaining projects as freight traffic volumes increase over the coming years.

TABLE OF CONTENTS

1.0 PROJECT OVERVIEW

Amtrak service between New Orleans, LA and Orlando, FL was suspended after Hurricane Katrina impacted the Gulf Coast in 2005. Since then, there have been several efforts to restore passenger rail service to the corridor. The most recent effort started in 2015 when the Southern Rail Commission (SRC), an organization comprised of representatives from Louisiana, Mississippi, and Alabama who promote passenger rail in their states, requested that Amtrak evaluate potential service restoration options along the Gulf Coast. In December 2015, Amtrak published the report *Potential Gulf Coast Restoration Options* outlining multiple alternatives for service restoration. In late-2015 the Fixing America's Surface Transportation (FAST) Act mandated the creation of the Gulf Coast Working Group (GCWG) to complete a report to Congress on the restoration of passenger rail along the Gulf Coast. The GCWG's membership consists of representatives from the Federal Railroad Administration (FRA), Amtrak, the states along the route, regional transportation planning organizations, metropolitan planning organizations, communities along the route, the SRC, railroad carriers whose tracks may be used for such service, and other entities deemed appropriate by the U.S. Secretary of Transportation. The GCWG selected two alternatives in the Amtrak report for further study:

- Alternative A: the extension of the daily Amtrak train *City of New Orleans* between New Orleans and Orlando, as well as the addition of a daily regional service between New Orleans and Mobile.

- Alternative A1: the extension of the daily Amtrak train *City of New Orleans* between New Orleans and Orlando.

HDR was commissioned by CSX, at FRA's direction and with the support of the GCWG, to complete a feasibility study of these alternatives and determine the required track infrastructure to restore Amtrak service to the Gulf Coast Corridor. In August 2016, HDR completed an operational modeling analysis with CSX providing the final project cost for the two scenarios. The study found that up to $2.3 billion is required for Alternative A and $2.1 billion for Alternative A1. When the GCWG submitted their report to Congress in July 2017 it did not concur with the results from the CSX study. Alternatively, the GCWG determined that $91 million worth of infrastructure projects are required to reinstate and sustain Amtrak service along the CSX controlled Gulf Coast Corridor.

Due to the disparity in cost estimates, the Florida Department of Transportation (FDOT) commissioned HNTB to review the information from the two reports and provide an independent study and estimate.

1.1 Gulf Coast Corridor Existing Infrastructure

Figure 1-1: Corridor with Key Yards and Junctions

The proposed passenger service between New Orleans, LA and Orlando, FL travels 768 miles over four railroads. The eastbound train will depart from New Orleans at the Union Passenger Terminal (NOUPT) railroad traveling on the Norfolk Southern (NS) railroad before transferring to the CSX railroad. The train remains on CSX for 726.7 miles before reaching DeLand, FL. From DeLand to its destination in Orlando, is an additional 41.8 miles over FDOT owned Central Florida Rail Corridor (CFRC).

The existing infrastructure varies greatly across the entire corridor (Table 1-2). Most of the route from New Orleans to DeLand is comprised of a single mainline track. The 247 miles from Flomaton, AL to Tallahassee, FL has no active signal system and utilizes track warrants to provide train control, resulting in additional delays to trains. Additionally, there are 17 moveable bridges along the corridor that result in unplanned delays to train traffic. Further discussion on the operational impact of track, signals, and moveable bridges can be found in Section 3.

Table 1-2: Overview of Existing Route Infrastructure

	Track Ownership	Route Length (miles)	Second Track (miles)[1]	Signal System	No. of Movable Bridges
New Orleans Terminal	NOUPT	3.6	0.0	Yes	0
	NS	3.3	3.3	Yes	0
New Orleans to Mobile	CSX	137.7	25.9	Yes	7
Mobile to Flomaton	CSX	59.0	13.3	Yes	5
Flomaton to Pensacola	CSX	45.0	3.4	No	0
Pensacola to Tallahassee	CSX	202.0	9.6	No	2
Tallahassee to Jacksonville	CSX	174.0	19.9	Yes	0
Jacksonville to DeLand	CSX	109.0	21.3	Yes	3
DeLand to Orlando (CFRC)	FDOT	41.8	28.3	Yes	0

1 – Miles of double track and passing sidings

2.0 DESCRIPTION OF WORK & METHODOLOGY

2.1 Work Elements

- Review the projects identified in the *Report on Operations Modeling Analysis for Implementing Passenger Rail Service on CSX Lines in the Gulf Coast Corridor*.
- Review the project selection from the *Gulf Coast Working Group Report to Congress*.
- Estimate the total implementation cost by determining the necessary infrastructure projects and their cost.
- Prepare a final report and presentation of findings.

2.2 Evaluation Methodology

When evaluating the necessary infrastructure to support a proposed passenger service, the current and anticipated future passenger and freight levels of service must be considered. The GCWG and CSX studies each took different approaches to determining the necessary infrastructure for the proposed service restoration. The GCWG projects were identified from a review done by the FRA. The analytical methodology used in this review is unclear. The CSX effort utilized operational simulation modeling and followed the standard methodology used in most passenger evaluations. This same methodology is used for this report and is described below.

First, a "Base" model is built and validated using current infrastructure and operations. From this model, anticipated future freight growth, infrastructure to support this growth, and projects already in progress are added. This future model is identified as the "No Build" Scenario and is the case that any added passenger traffic is compared against. The additional freight traffic provides the anticipated infrastructure necessary to protect the ability for the host railroad to grow in the future. These projects are not included in the final estimate in this report as CSX would take on these costs alone based on future freight volumes. This study selected an implementation date of 2020 with a 20-year planning horizon. Finally, operational and infrastructure "Build" scenarios are undertaken to determine their impact. For this study, the three scenarios considered are:

- No Build: The required infrastructure to support projected freight only growth in 2040.
- Build A Scenario: The required infrastructure to sustain daily regional passenger rail service between New Orleans and Mobile and restoration of daily service between New Orleans and Orlando as compared to the "No Build."
- Build A1 Scenario: The required infrastructure to sustain the restoration of daily passenger rail service between New Orleans and Orlando as compared to the "No Build."

Table 2-1: Current and Projected CSX Train Volumes[1]

	2016		2040
	Freight Trains per Day	Passenger Trains per Day	Freight Trains per Day
New Orleans to Mobile	11	0	17
Mobile to Flomaton	13	0	21
Flomaton to Pensacola	8	0	13
Pensacola to Tallahassee	7	0	10
Tallahassee to Jacksonville	7	0	10
Jacksonville to DeLand	4	6	5

1 – Train volumes from CSX Report on *Operations Modeling Analysis for Implementing Passenger Rail Service on CSX Lines in the Gulf Coast Corridor p. 101*

Each scenario was evaluated using two primary metrics to evaluate the overall corridor performance: passenger on-time performance (OTP) and freight train average speed. For any proposed new passenger service to be successful it needs to provide on-time passenger service and not impose an undue burden on the host freight railroad. Therefore, the freight train average speed for the proposed service must be the same or greater than the No Build Scenario. Lastly, train delay at each location was reviewed to make sure there are no excessive delays at any single location.

OTP definitions and thresholds for host railroads are defined in FRA's *Metrics and Standards for Intercity Passenger Rail Service*. These standards were mandated in Section 207 of the Passenger Rail Investment and Improvement Act (PRIIA) of 2008. Endpoint OTP, the measurement of the time a train arrives at its destination as compared to its schedule, is used for this study. The endpoint OTP requirement depends on the length of the route. For regional routes of less than 250 miles (New Orleans to Mobile), a train is considered on-time if it arrives at its endpoint less than 10 minutes after its scheduled arrival time. Trains are expected to meet this threshold greater than 90% of the time. For long-distance routes greater than 550 miles (New Orleans to Orlando), the train is considered on-time if it arrives less than 30 minutes after its scheduled arrival time for 85% of the trips.

For this study, OTP is calculated based on simulated travel time on the CSX owned portion of the corridor. For example, the long-distance trains OTP is based on the arrival times in New Orleans and DeLand as compared to its scheduled arrival times at those locations. The adjusted CSX schedule was used for this analysis. In their analysis, they lengthened the schedule developed in Amtrak's 2015 *Potential Gulf Coast Restoration Options* report based on the timetable and proposed maximum passenger speeds on the corridor.

2.3 Operational Simulation Methodology

This study was completed using Berkeley Simulation Software's Rail Traffic Controller (RTC) version 73X. RTC is the railroad industry standard for the simulation of both passenger and freight train operations. RTC is used to show the effects of infrastructure and operational alternatives on train performance. The RTC model, while very detailed and precise, does not

capture all events which happen in the actual operation of a railroad. Some events not included are unscheduled maintenance impacts (e.g., broken rail), trespasser/vehicle incidents, mechanical incidents (e.g., locomotive breakdowns), signal failures, and extreme weather. The model is a strong tool for evaluating alternatives, although railroading experience supplements any recommendation that results from the model.

For this study, CSX provided the RTC cases for the Base, No-Build, Build A, and Build A1 alternatives. Due to the duration in time since the CSX report was completed, the cases were created in an older version of RTC. Changes in the software's logic since the cases were developed required the scenarios to be modified to remove errors and provide an accurate representation of the operations.

Models for the CFRC were built to review the impact of the proposed passenger rail service on SunRail operations and determine any potential additional cost to service implementation. Additional discussion of the RTC methodology is found in Appendix C.

2.4 Cost Estimating Methodology

Order of magnitude track and signal cost estimates were completed for each proposed capacity project. Projects are estimated individually. Potential savings that can be obtained by completing projects in a program approach were not considered. The proposed infrastructure followed specifications outlined on page 107 in the CSX report, except all sidings are only upgraded to FRA track class 3 with a maximum freight speed of 40 mph, instead of 45 mph. By not upgrading to track class 4, track construction and maintenance savings can be achieved. Track construction and signal unit costs were developed using recent project costs and available industry data. Unit costs and required labor rates used for the cost estimates are provided in Appendix B. Key assumptions are listed below:

- All costs are in 2018 dollars. No labor and material inflation due to the timing of construction were included in the estimate.
- Road crossings were assumed to be the same material (concrete, timber, or asphalt) as on the adjacent existing track.
- The severity of grading was determined based upon project location. In remote, highly vegetative areas, an "extreme grading" cost was used to account for site access and anticipated clearing needs. The grading includes the cost of all construction up to the bottom of the track ballast layer.
- Bridge costs were calculated based upon total length. Multipliers were included for additional tracks.
- Permitting costs were calculated based upon acreage taken up during construction. A typical roadbed width of 30' was used.
- The CSX mainline passes through the levee system surrounding New Orleans. A gap in the levee that can close during a flood is called a levee door. The current door is for one track. The cost to add a two-track levee door was assumed to be $6.5 million. This cost comes from *The Gulf Coast Community Protection and Recovery District Storm Surge Suppression Study* completed in 2016 and escalated to 2018 dollars.

- Adding an additional track to a moveable bridge requires the removal of the existing structure and the construction of a new bridge. This cost is assumed to be $50M. This cost comes from 2007 GAO *Railroad Bridges and Tunnels* report and escalated to 2018 dollars.
- Typical moveable bridge modernization was $3.5M each bridge.
- Track speed upgrades include 25% rail replacement.
- Signal costs were estimated for a typical location. Site-specific conditions were not considered. (i.e. existing intermediate signal locations, braking distance, site preview of signals). Local factors at each location could change the overall cost.
- All rail was assumed to be continuous welded rail (CWR).
- Property acquisition was not determined by individual project. 2% was added to the total scenario cost for property acquisition.
- Per day/per project flagging cost of $900 was used.
- 35% contingency was used for all projects.

A list of the cost estimates for each potential project in the CSX study and the proposed HNTB scenarios are included in Appendix A.

3.0 PROPOSED RAILROAD INFRASTRUCTURE PROJECTS

There are several types of proposed projects that increase the capacity of the corridor, the ability to move more trains, or the same number of trains at higher speeds. The following is a description for the benefits of each project type:

3.1 New Track Construction

The Gulf Coast Corridor is comprised of primarily a single track. On routes with a single mainline track, when two trains traveling in opposite directions meet, they must pass where there is a second track. These second tracks, known as sidings, are typically slightly longer than the length of the train and require a train to stop and wait for the opposing train to pass. Alternatively, when there is a long segment of second track, known as double track, trains can meet and pass each other without stopping. Sometimes it is necessary for a train to overtake another train traveling in the same direction. In these cases, a train must wait in a siding or on double track for the trailing train to catch up and pass. Overtakes, sometimes called a pass, are required to allow the faster passenger trains to overtake the slower freight traffic. In some cases, the existing sidings cannot be used. This is because the train is too long for the siding, other trains are already sitting on the side track, or there is insufficient distance between road crossings resulting in the sitting train blocking vehicular traffic.

On a single mainline track route, the capacity of a route is limited by the distance between locations where trains pass each other. The farther the sidings and double track are apart, the more time trains must wait for the other train. Building a new mainline track provides additional places for two trains to meet, thereby reducing the required wait time. Near a freight yard, there is added congestion due to trains picking up and setting out cars or changing crew personnel. Additional tracks allow for trains to bypass this congestion at the freight yard. Alternatively,

extending existing sidings or closing road crossings provides additional meet locations for longer trains to pass without the cost of building a new full-length siding.

3.2 Train Control Upgrades

Train movements are controlled through a combination of systems. Signals along the railroad corridor provide information to the train about the availability and the condition of the track ahead. Freight trains moving at their maximum speed typically cannot stop within their sight distance. The signals are spaced to control train speeds so that a train can stop before an unsafe condition, like other trains or broken rails.

Train control systems are the method used to provide train authority (the permission given to a train to safely travel between two points). There are two types of train control systems on the Gulf Coast Corridor: centralized traffic control (CTC) and track warrant control (TWC) (Figure 3-1). In CTC, dispatchers rely on computerized systems to control switches which determine a train's route. The authority for that movement is then conveyed to the train via signals. In TWC, the route does not have signals and track warrants are used to authorize a train's use of the mainline. Dispatchers issue these permissions to train crews by radio or electronic transmission. Once a crew receives the authority, the train crew rather than the dispatcher controls the movement of the switches through a radio signal or by stopping the train and manually changing the direction of a switch. In TWC territory the delays from receiving track warrants and manually controlling switches lower the overall capacity of the route.

Positive Train Control (PTC) is not a train control system but a safety overlay that is designed to "prevent train-to-train collisions, over-speed derailments, incursions into established work zone limits, and the movement of a train through a switch left in the wrong position" (*49 CFR 236*). Railroads are mandated to install the system on their higher volume mainlines and all routes with passenger traffic. Due to its low traffic volumes, the route between Flomaton and Jacksonville does not require PTC unless passenger service is restored. The rest of the corridor will have PTC installed due to the existing passenger service or traffic density.

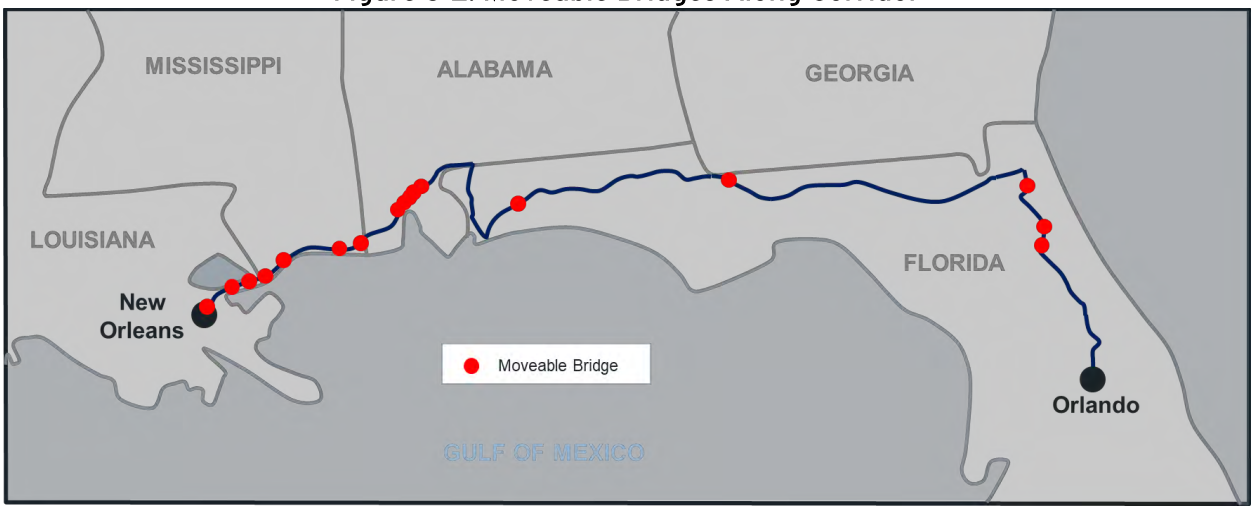
Figure 3-1: Train Control Systems on Corridor

3.3 Bridge Modernization

There are 17 movable bridges on the corridor between New Orleans and Orlando (Figure 3-2). On a navigable waterway, marine traffic has the priority over all train movements. The bridges must open on-demand based on marine traffic. These openings are random and cannot be scheduled. Per the CSX report, some of the bridges open more than 25 times a day with the full open and close cycle taking nearly 30 minutes.

The moveable bridges currently utilize bridge tenders, who operate and maintain the moveable bridge to ensure the safe passage of both the marine traffic below and railroad traffic on the bridge. The CSX report explains that due to the remote location of several bridges, some tenders must use a hi-rail vehicle to access the bridge, blocking the mainline track as they travel to and from the bridge for up to an hour, three times a day. Modernizing the bridges will not change the opening requirements but will improve the reliability of the bridges and eliminate the delays caused by bridge tenders.

Figure 3-2: Moveable Bridges Along Corridor



3.4 Track Speed Improvements

The maximum speed a train can travel on a given track is regulated by the FRA (*49 CFR 236.1)*. Each speed increment is a track class; for instance, FRA track class 3 limits freight speed to 40 mph and passenger to 60 mph. Increasing the speed requires more intensive and regular track maintenance. Upgrading track components and changing curve alignment may also be required. Improving track speeds not only reduces travel time but improves the capacity by reducing the time it takes for a train to travel between two meet locations.

4.0 PROPOSED INFRASTRUCTURE

The addition of passenger service on a congested freight corridor requires a significant infrastructure investment. New sidings, double track, and extended sidings provide new locations for Amtrak to meet and pass freight traffic without delays. The mileage of proposed and existing second mainline track or sidings in each scenario is detailed in Table 4-1. Adding signals and upgrading from TWC to CTC between Flomaton and Tallahassee increases train speeds and adds active warning devices for the corridor such as broken rail detection. Adding PTC between Flomaton and Jacksonville increases safety. Modernizing all the moveable bridges on the route improves reliability and track capacity. Track speed increases improve capacity and reduce travel times for all the trains accessing the corridor.

Table 4-1: Miles of second mainline track in each scenario

	2nd Track[1] (miles)
2016 Existing	93.4
No Build	133.8
Build A	266.1
Build A1	252.0

1 – Miles of double track and passing sidings

To determine the infrastructure required for each scenario, all proposed projects in the CSX study and in the GCWG report were reviewed. Each project was evaluated individually to determine if network performance was improved. Value engineering (VE) was done to determine a less expensive alternative. Utilizing the CSX study as a baseline, a short description of the changes for each scenario is discussed below. Project-by-project descriptions can be read in detail in Appendix E. Diagrams of each corridor with the selected projects can be found in Appendix F.

4.1 No Build Scenario

To support the projected growth in freight traffic by 2040, 40.4 miles of new track is required. In addition to the projects proposed by CSX, two additional siding extensions and two road closures that are proposed by the CGWG were found to be necessary.

4.2 Build A & A1 Scenarios

To meet the necessary passenger and freight level of service, the following projects are required in addition to the No Build improvements:

- 132.4 miles of new track (reduced by 14.1 for Build A1 Scenario)
- 247 miles of new PTC capable CTC system
- 158 miles of PTC installation on existing CTC system
- Two 2 track movable bridges replacing the two existing one-track movable bridges
- One three track movable bridge replacing the existing two track movable bridge
- 65 miles of FRA track class speed upgrades

Project VE alternatives that reduce cost as compared to the CSX study include:

- Elimination of the construction of two-track levee doors. Proposed double track was shortened, eliminating the necessary replacement.
- Reduction in the number of sidings. Between Tallahassee and Jacksonville, a single siding extension replaced one new siding and three siding extensions.
- Reducing the amount of track speed upgrades. In some locations, CSX increased the track speeds from 40 mph for freight and 40 mph for passenger to 49 mph for freight and 59 mph for passenger. The maximum speed for class 3 track is 40 mph for freight and 60 mph for passenger. In these cases, if the track design speed is not increased to FRA track class 4, passenger train speeds can be increased with no increase in track class. Locations where a higher freight speed would require a higher FRA track class were eliminated. New and extended sidings were also reduced from 45 mph for freight (FRA track class 4) to 40 mph for freight (FRA track class 3).
- Storage sidings were reengineered to meet the required capabilities. CSX specified that all the rock train storage sidings become signaled passing sidings. These sidings prevent trains from blocking the mainline when serving rock distributors. Unlike a passing siding, the rock storage sidings do not require high speed track, power turnouts, and signals. Consequently, the storage sidings were designed to be less expensive, removing the signals and replacing the power switches with hand thrown versions.
- Changed location of new main, adding an additional 6.7 miles of double track at less cost than the CSX proposal. CSX proposed building 2.2 miles of double track across the Pearl River, which would include a new two-track moveable bridge. Instead of building the bridge, 8.9 miles of new mainline track was added, at less cost and with a greater benefit to passenger OTP and freight train average speed.

In total, 15.4 miles of new track construction was eliminated in the Build A Scenario and 22.1 miles from the Build A1 Scenario as compared to the CSX proposal. Additionally, 85 miles of track was not upgraded as compared to the CSX study.

4.3 Central Florida Rail Corridor (CFRC)

Current plans for overnighting the train at the Sanford Auto Facility may create a need for additional mainline capacity or for the existing facility to be expanded. The passenger train schedules proposed by CSX will create conflicts with the existing Amtrak service. When final schedules are determined, conflicts with SunRail and capacity in the Sanford Auto Facility must be reviewed before a final recommendation is made. More detailed discussion of the proposed schedules and operational plans on the CRFC can be found in Appendix D.

4.4 New Orleans

The seven miles of track between the end of CSX's track and the New Orleans Passenger inal were not modeled by CSX and not considered in this study.

5.0 MODELING RESULTS

The build scenarios were simulated to confirm that the proposed alternatives provide the same or better level of service (LOS) for freight and the sufficient on-time performance (OTP) for the Amtrak passenger trains. For this study, freight train LOS is measured by average speed. RTC is not a perfect replication of actual operations, the model will have higher operating metrics than can be achieved once service is initiated. On-time performance values should only be used as an indication of sufficient capacity and not an estimate of expected OTP. Focus should be on the difference in metrics between the scenarios more than the actual values.

The proposed infrastructure studied in the scenarios obtained a high OTP (Figure 5-1). All Amtrak trains have an OTP greater than 90%, except the eastbound Amtrak train running from New Orleans to Mobile. The 77% OTP is due to delays at bridge openings and stricter on-time performance standards for the regional train. The westbound regional train has a higher OTP due to an additional 10 minutes of recovery time built into the schedule for the meet with the eastbound New Orleans to Orlando train. Since the meet often takes less than 10 minutes this recovery time helps the OTP of the train. An additional 5 minutes in the schedule of the eastbound train OTP would increase OTP to 88%. The OTP for the New Orleans to Mobile train could be improved by syncing the moveable bridge opening times with the train schedules, adding high clearance fixed bridges, and/or adding time to the schedule.

Different freight train types have different LOS requirements. The type with the highest LOS requirement, Intermodal trains, are made up of shipping containers and truck trailers. Bulk trains are trains typically composed of a single commodity (grain, coal, coke, iron ore, aggregate) and have the lowest LOS requirements by their customers. Merchandise trains have a required LOS between intermodal and bulk. The higher a required LOS the higher the priority given to that train on a route. Average speeds for each type reflect this priority. In all cases, passenger trains have a higher LOS than any freight traffic.

The freight traffic in the Build A and A1 Scenarios have higher overall speeds than the No Build (Figure 5-2). For the studied corridor, the new infrastructure is required for the necessary OTP

for Amtrak. This infrastructure provides a benefit to the freight traffic when passenger trains are not operating, as reflected in the higher average freight speeds.

Figure 5-1: Passenger Train Performance by Scenario

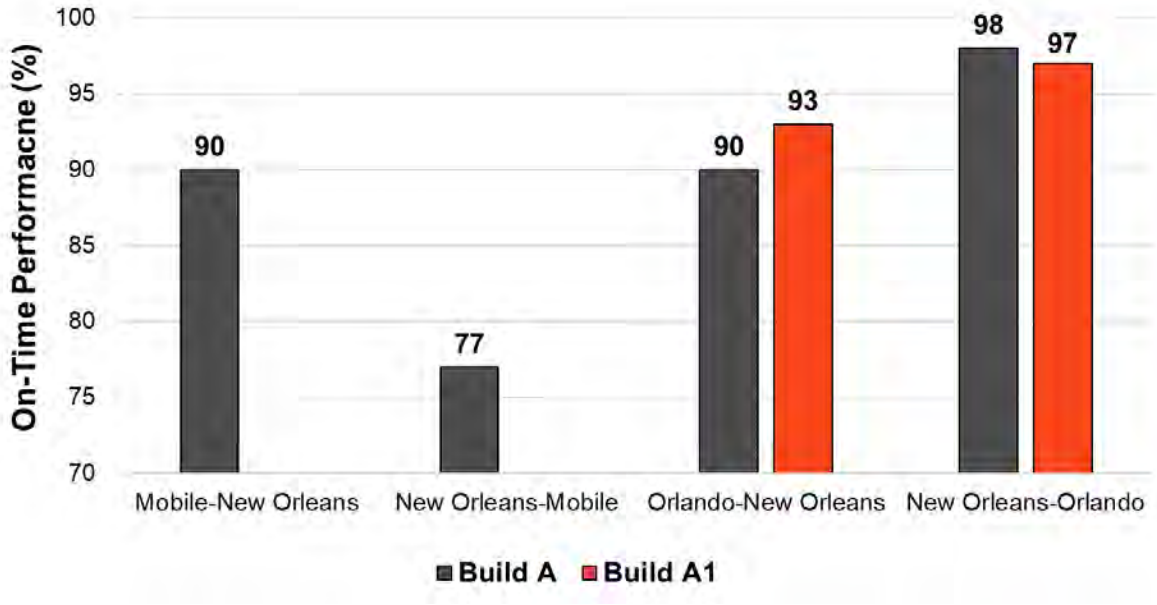
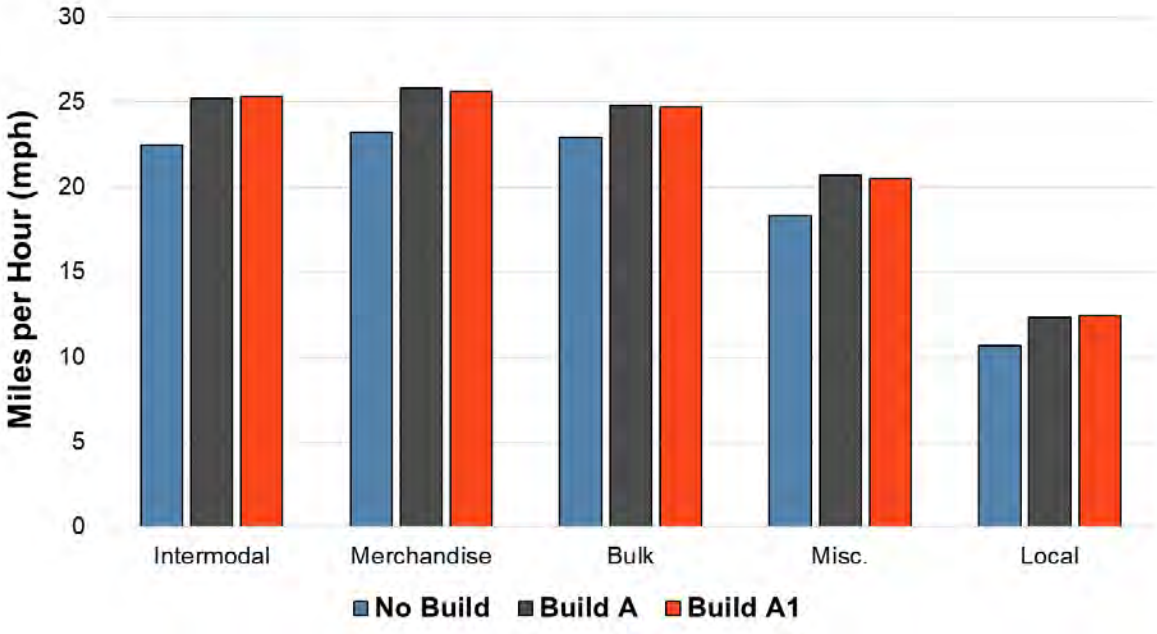


Figure 5-2: Average Train Group Train Speeds by Scenario



6.0 COST ESTIMATES AND CONCLUSIONS

CSX provided order of magnitude cost estimates for all the projects selected by HDR in the build scenarios. The estimates were a "program" approach and are not broken down by project. Additionally, per the CSX report, due to time limitations "*the projects were not assessed by HDR or CSX for their constructability, least cost, or engineering feasibility.*" HNTB completed individual project estimates, supporting the evaluation of each project to determine the least cost alternative. There are several potential factors that may increase the project cost beyond the estimated cost. Projects along the coast from Pascagoula to New Orleans are at high risk for additional environmental mitigation and construction cost. Estimates are for the track infrastructure on CSX only and are based on 2018 material and labor cost. The estimates do not include costs for the CFRC or in New Orleans, new or upgraded stations, station only tracks, train sets, grade separations, or any ongoing operating cost. Each of the costs and the scenario (selected by HNTB or CSX, in the No Build, Build A, Build A1 Scenario) are included in Appendix A.

Table 6-1: Final Infrastructure Project Cost ($M)

GCWG	$91
CSX BUILD A[1]	$2,254
HNTB BUILD A	$1,346
CSX BUILD A1[1]	$2,057
HNTB BUILD A1	$1,247

1 – The upper limit of CSX cost estimate

6.1 Cost Estimate Difference

HNTB found the total cost to be $1,346M for the Build A Scenario and $1,247M for the Build A1 Scenario. The upper limit of the CSX estimate is $2,254M for the Build A Scenario and $2,057M for the Build A1 Scenario. CSX provided two costs using a 25% and 35% contingency. HNTB used a contingency of 35% to match the upper limit of CSX's estimate. The GCWG estimate is significantly less (Table 6-1). The GCWG estimate does not include a sufficient number of projects to support the passenger service while also protecting the host railroads traffic. The difference in cost estimates provided by CSX and HNTB is due to three main reasons: project cost estimates, CSX's inclusion of the No Build project cost, and project elimination or replacement (Figure 6-1).

Project Cost Estimates

The difference in the project cost is due to the assumptions made when quantifying the cost estimates of the CSX projects. These assumptions include the type and cost of railroad materials used (crossties, turnouts, road crossing, etc.), construction methods, and overhead costs considering CSX did not provide the details in their estimates. The assumptions used by HNTB are listed in Section 2.4 and Appendix B of this report. The assumptions made by CSX in their estimate are not known. The difference in the cost estimates is $267 million for the Build A Scenario.

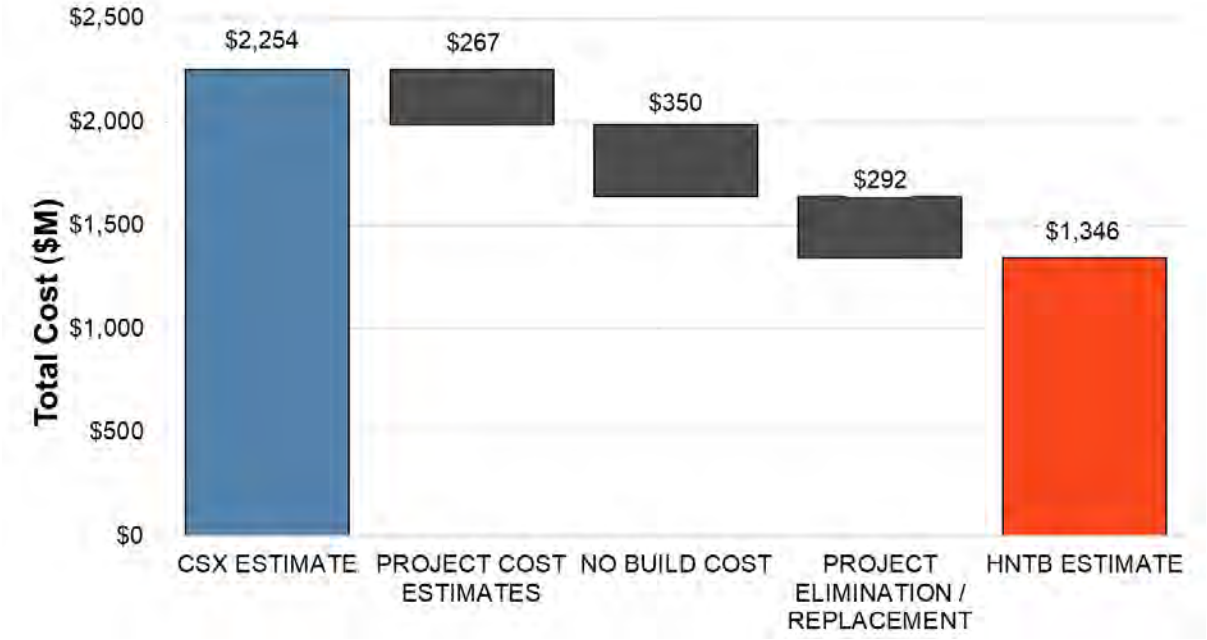
No Build Cost

The cost estimate provided by CSX included all projects in the Build scenarios, including all the No Build projects. These are expenses that CSX will incur to support their own growth. Standard methodology for passenger planning studies is to not include the No Build cost in the final project cost. HNTB estimated the cost of each full project in the Build and No Build Scenarios. The project cost of the No Build Scenario is subtracted from the Build Scenario cost to determine the final estimate. HNTB's estimate of the cost of the CSX No Build projects is $350 million.

Project Elimination or Replacement

Lastly, reduction in cost is found by providing value engineering by eliminating projects with little value or finding less costly alternatives. The changes and justifications are found in Appendix E. The value engineering study found $292 million in savings.

Figure 6-1: Breakdown of Difference in Cost Estimate for Build A Scenario



6.2 State by State Cost

The Gulf Coast passenger corridor passes through four states. Projects are required in each of these states to support this restoration. 572 of the 775 miles (73.7%) are in the state of Florida with only $536.2 (39.8%) of the total cost. The disproportionate allocation of cost over the route is due to the number of individual projects and the associated high costs on the already constrained route between New Orleans and Flomaton. Projects along the Gulf of Mexico due to the marshy landscape, difficult land access, and long bridges have an average cost over twice that of the projects in Florida.

Table 6-2: Track Miles and Cost by State

	Route Miles	New Track Miles[1]	HNTB Cost ($M)[1]
Florida	572	65.3	536.2
Alabama	89	19.9	390.3
Mississippi	74	36.2	246.6
Louisiana	41	11.0	121.6

1 – From Build A Scenario

6.3 Conclusions

The identified projects and the corresponding costs are based on maintaining fluid and reliable operations from today's current freight traffic volume to the anticipated increase in freight volume in the year 2040. To meet the required performance for today's traffic volume, only a portion of the identified projects are required. As such, initial implementation costs could be reduced by building these initial projects and then later constructing the remaining projects as freight traffic volumes increase over the coming years.

APPENDIX A: PROJECT COST SUMMARY

					Selected Projects by Scenario						
					HNTB			CSX			HNTB
	Prefix	MP Begin	MP End	State	No Build	Build A1	Build A	No Build	Build A1	Build A	Cost ($M)
Jacksonville to Deland (Sanford Subdivision)											
Modernize Moveable Bridges (3)				FL		X	X		X	X	**10.5**
Baldwin to Jacksonville (Jacksonville Terminal Subdivision)											
New XO: Dinsmore	A	635.20		FL		X	X		X	X	**2.5**
New Main: Grand Jct to Beaver St	A	639.80	642.50	FL		X	X		X	X	**29.3**
New Main: Beaver St to Duval Connection	SP	635.00	639.80	FL		X	X		X	X	**43.6**
New Main: White House to Halsema	SP	643.30	650.00	FL		X	X		X	X	**34.7**
Chattahoochee to Baldwin (Tallahassee Subdivision)											
PTC Installation				FL		X	X		X	X	**52.8**
Track Improvements: Limited				FL		X	X				**19.1**
Track Improvements				FL					X	X	**33.7**
Extend Siding: Sanderson	SP	671.80	672.80	FL	X	X	X	X	X	X	**9.1**
New Storage: Sanderson (Non-Signaled)	SP	667.70	670.80	FL		X	X				**14.3**
New Storage: Sanderson (Signaled)	SP	667.70	670.80	FL					X	X	**16.5**
New Siding: Mt Carrie	SP	685.16	688.42	FL		X	X		X	X	**15.6**
Upgrade Siding: Lake City	SP	693.50	695.10	FL		X	X		X	X	**7.0**
New Storage: Lake City (Non-Signaled)	SP	693.50	695.10	FL		X	X				**10.0**
New Storage: Lake City (Signaled)	SP	693.50	695.10	FL					X	X	**12.0**
New Siding: New Wellborn (15,000')	SP	705.20	708.50	FL	X	X	X	X			**14.6**
New Siding: New Wellborn (17,000')	SP	704.80	708.50	FL					X	X	**16.9**
New Siding: Allen	SP	718.73	721.80	FL					X	X	**16.0**
Extend Siding: Lee	SP	736.10	737.45	FL					X	X	**8.5**
Extend Sidng: Madison (15,000')	SP	746.50	747.34	FL				X			**6.9**
Extend Sidng: Madison (22,600')	SP	746.50	748.80	FL	X	X	X		X	X	**13.2**
Extend Siding: Aucilla	SP	765.00	767.10	FL					X	X	**15.4**
Extend Siding: Drifton	SP	772.50	775.40	FL		X	X				**16.7**
Extend Siding: Chaires (15,000')	SP	785.90	787.13	FL	X	X	X	X			**15.8**
Extend Siding: Chaires (16,500')	SP	785.70	787.13	FL					X	X	**20.8**
Upgrade Track: Tallahassee Running Track	SP	798.80	802.00	FL		X	X		X	X	**5.3**
New Siding: Midway (15,000')	SP	811.70	814.60	FL		X	X				**18.6**
New Siding: Midway (18,000')	SP	811.10	814.60	FL					X	X	**21.5**
Extend Siding: Douglas City (15,000')	SP	826.40	827.80	FL		X	X				**10.4**
Extend Siding: Douglas City (16,000')	SP	826.40	827.90	FL					X	X	**12.6**
New Siding: Chattahoochee (15,000')	SP	838.00	840.80	FL	X	X	X	X			**18.2**
New Siding: Chattahoochee (16,400')	SP	837.70	840.80	FL					X	X	**21.7**

	Prefix	MP Begin	MP End	State	Selected Projects by Scenario: HNTB No Build	HNTB Build A1	HNTB Build A	CSX No Build	CSX Build A1	CSX Build A	HNTB Cost ($M)
Pensacola - Chattahoochee (P&A Subdivision)											
Signal Upgrades				FL		X	X		X	X	**37.1**
Track Improvements: Limited				FL		X	X				**5.9**
Track Improvements				FL					X	X	**23.9**
Modernize Moveable Bridges (2)				FL		X	X		X	X	**7.0**
New Siding: Grand Ridge (15,000')	00K	796.40	800.00	FL		X	X				**15.5**
New Siding: Grand Ridge (19,000')	00K	796.40	800.00	FL					X	X	**20.6**
New Storage: Marianna (Non-Signaled)	00K	789.60	791.00	FL		X	X				**10.3**
New Storage: Marianna (Signaled)	00K	789.60	791.00	FL					X	X	**13.4**
New Siding: Lime Rock (15,000')	00K	779.00	781.90	FL	X	X	X	X			**16.7**
New Siding: Lime Rock (20,000')	00K	779.90	783.70	FL					X	X	**21.7**
Extend Siding: Chipley (15,000')	00K	769.10	770.10	FL	X	X	X	X			**12.3**
Extend Siding: Chipley (16,000')	00K	769.10	769.90	FL					X	X	**13.8**
New Siding: Westville (15,000')	00K	744.80	747.80	FL	X	X	X	X			**14.7**
New Siding: Westville (18,000')	00K	744.40	747.80	FL					X	X	**18.4**
New Siding: DeFuniak Springs (15,000')	00K	727.20	729.90	FL		X	X				**23.9**
New Siding: DeFuniak Springs (18,000')	00K	726.60	729.90	FL					X	X	**26.8**
New Storage: DeFuniak Springs (Non-Signaled)	00K	723.50	724.80	FL		X	X				**5.2**
New Storage: DeFuniak Springs (Signaled)	00K	723.50	724.80	FL					X	X	**8.3**
Extend Siding: Sellers (15,000')	00K	719.70	720.80	FL	X	X	X	X			**8.5**
Extend Siding: Sellers (19,000')	00K	719.70	721.50	FL					X	X	**11.6**
New Siding: Deerland (15,000')	00K	708.30	711.20	FL		X	X				**13.5**
New Siding: Deerland (18,000')	00K	708.30	711.70	FL					X	X	**16.1**
New Storage: Galliver (Non-Signalled)	00K	689.30	690.80	FL		X	X				**6.0**
New Storage: Galliver (Signalled)	00K	689.30	690.80	FL					X	X	**9.2**
New Main: Galliver to Floridale	00K	680.70	690.90	FL		X	X		X	X	**38.0**
Extend Siding: Floridale	00K	682.90	683.70	FL	X			X			**7.7**
New Storage: Avalon (Non-Signaled)	00K	666.80	667.10	FL		X	X				**6.6**
New Storage: Avalon (Signaled)	00K	666.80	667.10	FL					X	X	**9.8**
New Storage: Mulat (Non-Signaled)	00K	663.60	664.93	FL		X	X				**7.3**
New Storage: Mulat (Signaled)	00K	663.60	664.93	FL					X	X	**10.5**
New Main: Pace to Avalon	00K	663.50	667.10	FL		X	X		X	X	**14.6**
Extend Siding: Avalon	00K	664.10	665.20	FL	X			X			**9.1**
Track Upgrade: Escambia Bay Bridge	00K	659.20	659.40	FL		X	X		X	X	**4.0**
New Siding: Pensacola	00K	646.00	648.80	FL		X	X		X	X	**11.7**
Grade Separation: Airport Rd.	00K	645.90		FL		X	X		X	X	**7.3**

Flomaton to Pensacola (PD Subdivision)											
Signal Upgrades				FL		X	X		X	X	**5.2**
Track Improvements				FL		X	X		X	X	**1.5**
Extend Siding: Cantonment	00K	633.50	635.40	FL		X	X		X	X	**14.7**
New Storage: Cantonment (Non-Signaled)	00K	635.00	636.50	FL		X	X				**8.2**
New Storage: Cantonment (Signaled)	00K	635.00	636.50	FL					X	X	**11.3**
Extend Siding: Molino (15,000')	00K	629.10	630.04	FL	X	X	X	X			**10.1**
Extend Siding: Molino (19,000')	00K	627.20	630.80	FL					X	X	**14.4**
New Siding: McDavid (15,000)	00K	614.50	617.40	FL		X	X				**18.7**
New Siding: McDavid (19,000)	00K	613.70	617.40	FL					X	X	**35.1**
New Main: Flomaton to Century (2.8 miles)	00K	607.30	610.00	FL	X	X	X	X			**24.4**
New Main: Flomaton to Century (3.4 miles)	00K	607.30	610.60	FL					X	X	**32.0**

	Prefix	MP Begin	MP End	State	Selected Projects by Scenario: HNTB No Build	HNTB Build A1	HNTB Build A	CSX No Build	CSX Build A1	CSX Build A	HNTB Cost ($M)
Mobile to Flomaton (M&M Subdivision)											
Track Improvements				AL		X	X		X	X	**0.5**
Modernize Drawbridges (3)				AL		X	X		X	X	**10.5**
New XO: North Flomaton	000	606.60		AL	X	X	X	X	X	X	**2.5**
New UXO: South Flomaton	000	607.10		AL		X	X		X	X	**4.9**
New Main: Miles to Wawbeek	000	609.30	614.10	AL		X	X		X	X	**29.9**
Extend Siding: Canoe	000	616.70	617.70	AL	X	X	X	X	X	X	**9.3**
Extend Siding: Nokomis	000	626.50	627.40	AL	X			X			**7.0**
New Main: Nokomis to Perdido	000	624.40	629.40	AL		X	X		X	X	**31.2**
New Storage: Bay Minette (Non-Signaled)	000	644.70	646.20	AL		X	X				**9.2**
New Storage: Bay Minette (Signaled)	000	644.70	646.20	AL					X	X	**11.3**
Extend Siding: Bay Minette	000	639.70	641.20	AL	X			X			**12.5**
New Main: Bay Minette to Hurricane	000	639.70	651.30	AL		X	X		X	X	**65.2**
Extend Siding: Hurricane	000	648.00	649.20	AL	X			X			**6.4**
New Siding: Hurricane	000	644.50	647.30	AL					X	X	**23.7**
New Main: Aladocks to Sandy	000	662.90	663.50	AL		X	X		X	X	**131.1**
New Main: Sandy to Three Mile Creek	000	663.90	664.20	AL		X	X		X	X	**82.2**
New Main: Mobile Bypass	000	664.10	666.00	AL		X	X		X	X	**20.1**
New Orleans to Mobile (NO&M Subdivision)											
Modernize Moveable Bridges (7)						X	X		X	X	**24.5**
New Main: Choctaw to Brookley	000	667.00	671.80	AL		X	X		X	X	**31.5**
Extend Siding: Saint Elmo (15,000')	000	684.70	685.90	AL	X	X	X	X			**9.1**
Extend Siding: Saint Elmo (18,000')	000	683.90	685.60	AL					X	X	**12.0**
New Main: Orange Grove to Pascagoula River	000	699.30	706.60	MS		X	X		X	X	**42.6**
Extend Siding: Gautier (15,000')	000	708.40	709.80	MS				X			**66.2**
Extend Siding: Gautier (22,000')	000	707.00	709.80	MS	X	X			X		**76.4**
New Main: Gautier to Fountainbleau	000	707.00	716.50	MS			X			X	**101.6**
New Main: Biloxi Bay to KCS	000	725.10	739.40	MS		X	X		X	X	**83.8**
Close Iris St	000	730.83		MS	X	X	X				**0.1**
Upgrade Siding: Harbin	000	745.00	746.90	MS		X	X		X	X	**8.6**
New Storage: Harbin (Non-Signaled)	000	746.30	747.20	MS		X	X		X	X	**6.3**
New Storage: Harbin (Signaled)	000	746.30	747.20	MS		X	X		X	X	**8.4**
Close Webb St	000	755.60		MS	X	X	X				**0.1**
Extend Siding: Nicholson (15,000')	000	756.40	757.70	MS	X	X		X			**7.0**
Extend Siding: Nicholson (19,000')	000	756.40	758.40	MS					X	X	**13.0**
New Main: Nicholson to Claiborne	000	754.60	768.10	MS			X				**78.7**
New Main: Claiborne to Rigolets	000	766.20	774.10	LA						X	**145.3**
New Main: Pearl to Rigolets	000	770.10	774.10	LA		X	X		X		**31.3**
Extend Siding: Lake Catherine	000	781.90	783.30	LA	X			X			**28.2**
New Main: Lake Catherine	000	777.30	783.30	LA		X	X				**78.9**
New Main: Rigolets to Chef Menteur	000	776.00	787.00	LA					X	X	**109.6**
New Main: Chef Menteur to Michoud	000	788.40	793.10	LA					X	X	**54.2**
New Main: Sea Wall to Michoud	000	789.30	793.10	LA		X	X				**39.6**
New Main: Gentilly Yard Bypass	000	796.10	801.00	LA	X	X	X	X	X	X	**26.7**

APPENDIX B: CONSTRUCTION UNIT COST AND ASSUMPTIONS

Track Unit Costs

	UNIT	UNIT COST	LABOR (Man-Days/Unit)
136 lb. Rail	FT	$20	0.05
Wood Crosstie	EA	$85	0.08
Spike	EA	$0.50	
Anchor	EA	$1.50	
Ballast	TON	$32	0.01
Thermite Weld	EA	$125	1.20
#10 Turnout	EA	$85,000	15
#15 Turnout	EA	$115,000	25
#20 Turnout	EA	$145,000	30
#20 Crossover	EA	$285,000	60
Diamond Crossing	EA	$325,000	50
Light Grading	MILE	$400,000	
Medium Grading	MILE	$850,000	
Heavy Grading	MILE	$1,750,000	
Extreme Grading	MILE	$2,750,000	
Culvert Extension	EA	$35,000	20
Fixed Bridge Reconstruction	FT	$5,000	
New Fixed Bridge Construction	FT	$15,000	
Construction Management	MONTH	$25,000	
Equipment Rental	MONTH	$15,000	
Employee Travel Overhead	MONTH	$20,000	
Timber Crossing	FT	$125	0.33
Concrete Panel Crossing	FT	$250	0.33
Work Train	EA	$3,000	
Asphalt	FT	$250	
Permitting	ACRE	$100,000	

Track Cost Assumptions

- EMPA on property
- 20-man gangs
- 21.75 work days per month
- 50 TN Asphalt per track per 40' of crossing (timber)
- 30 TN Asphalt per track per 40' of crossing (concrete)
- Work Train: 85TN per car 50 cars per train
- Grading additives 13.24%
- Track Material Additives 16.0%
- Track Labor Additives 86.82%
- Bridge Additives 13.24%
- GEC Track Design 5% of Track Cost

Signal Typical Costs

	UNIT	UNIT COST
Turnout	EA	$945,000
Retire Turnout	EA	$22,000
Crossover	EA	$1,282,000
Retire Crossover	EA	$34,000
Road Crossing	EA	$225,000
Diamond Crossing	EA	$1,430,000
Retire Diamond	EA	$22,000
Road Crossing	EA	$447,000
Electric Lock Switch	EA	$225,000
Single Track Intermediate	EA	$374,000
Two Track Intermediate	EA	$641,000
Moveable 1 Track Bridge	EA	$1,071,000
Moveable 2 Track Bridge	EA	$1,544,000

APPENDIX C: DETAILED RTC METHODOLOGY

Randomization

HNTB used the freight train departure times, dwells, and randomization provided in the RTC cases received from CSX. CSX describes additional randomization in the report but detailed data on the exact randomization parameters used is unavailable, and therefore, could not be replicated by HNTB. The HNTB modeling results are from 10 different random cases with randomization on train departure times, dwells, and operator handling.

Amtrak station dwell times were randomized to represent Amtrak caused delays. Amtrak's target for Amtrak responsible delays is 325 minutes per 10,000 train miles. For the 726 miles between New Orleans and DeLand, the target delay would be 23.5 minutes per train and 4.5 minutes for the 138 miles between New Orleans and Mobile. Minimum station dwells were randomly increased using a triangular distribution, with the average delay across the 14 stations totaling the target delay amount.

The departure times for the long-distance trains, uniformly distributed from 0 minutes early to 60 minutes late for the New Orleans to Orlando train and 10 minutes late for the Orlando to New Orleans train. The eastbound train was given a greater probability of being late from its departure in New Orleans due to the potential for delays earlier in the trip. The westbound train is closer to its origin (Orlando) and travels over a commuter railroad (CFRC) before entering the model. The Mobile to New Orleans regional train departures were uniformly distributed up to 5 minutes late. The train departs from Mobile and New Orleans after dwelling overnight in New Orleans and mid-day in Mobile making any departure delay a low probability.

Moveable bridge openings were randomized based on the information provided in the CSX modeling report. Bridge opening times were randomized using a uniform distribution throughout the bridge operating hours. Durations were increased using a normal distribution from the minimum cycle time.

Freight Train Service Metric

When using simulation models, it is common practice to use a delay per 100 train miles as a metric to determine the level of service. Delay is calculated for each train as the difference in the simulated travel time vs. the ideal travel time. Simulated time is the total time it takes a train to complete its route in the model. The ideal travel time is the minimum time it takes a train to complete its route without any other traffic. Alternatively, average speed can be used, defined as the simulated run time over the miles that the train moved.

Delay works in most cases; however, when increases to track speed are proposed, the ideal run time is reduced. This potentially results in a scenario where there is a higher average speed and higher delay. In these cases, if only the delay is used, the benefit would be under represented. Since track speed improvements are evaluated, average train speed is used as the comparison metric between the scenarios.

Model Changes

Adjustments were made to the CSX provided models. Changes were done to improve the accuracy of the model while protecting the integrity of the validated cases. Some examples of these changes include; inserting missing crew change events, adjusting infrastructure and signaling, changing priorities of long trains to better reflect actual operation, and spacing of trains departures.

In the build scenarios, HNTB removed the bridge tender hi-rail moves from the model. Per page 103 of the CSX report, modernization of moveable bridges includes, "*replacement of aging or unreliable components, converting manned drawbridges to remote-control, and adoption of new technologies.*" By converting the moveable bridges to remote-control, the hi-rail moves required to bring the operators to the bridges are no longer required.

APPENDIX D: PASSENGER OPERATING PLANS REVIEW

New Orleans to Orlando Train Schedule

The southbound Amtrak *Silver Meteor* train, per the June 2018 Amtrak timetable, has a departure time of 9:34 AM from Jacksonville, four minutes after the CSX proposed departure of the New Orleans to Orlando eastbound Amtrak train and an arrival time within one minute of each other at the DeLand, FL station.

Orlando to New Orleans Train Schedule

The originally proposed schedule from Amtrak in 2015 had a departure time from Orlando to New Orleans of 4:15 PM. This departure is just as SunRail's afternoon rush begins. Alternatively, CSX moves the departure earlier to 3:20 PM. However, the existing Auto Train departs Sanford, FL at 4:00 PM putting it at the Deland station six minutes ahead of the CSX scheduled New Orleans bound train.

Orlando Overnight Storage Plans

Amtrak's plan is to use different trains for the eastbound arrival and the westbound departure. The eastbound to Orlando service is scheduled to arrive two hours and 40 minutes before the westbound to New Orleans departure. This is due to the potential risk of delays for the eastbound train. It keeps a delayed arrival from this eastbound train from delaying the departure of the westbound train.

To store the extra Amtrak train, the plan is for it to overnight in the Sanford Auto Train Facility for maintenance and cleaning. To reach Sanford, after arriving in Orlando, the train will need to continue 8.5 miles south to reach a wye, then turn and travel 35 miles back north to Sanford. If the eastbound New Orleans train arrives before the westbound Orlando train departs this may create a conflict at the yard or on the CFRC. Further study of the CFRC and the Sanford facility's capacity will be required once a schedule is finalized to quantify any impact of these operations.

Mobile Mid-Day Storage

Per Amtrak's report, the plan is to use one train for the New Orleans to Mobile regional service. The train will travel east to Mobile in the morning before returning in the evening to New Orleans. Construction of a new siding off the mainline at the Mobile station is required to provide mid-day storage for Amtrak.

APPENDIX E: DETAILED PROPOSED PROJECT DESCRIPTIONS

No Build Scenario

Close Webb Road (000 755.60)
Closing Webb Road provides a 7,000' clear length in the center of the Nicholson Ave. Siding. Separately, the GCWG Report to Congress proposed removing two road crossings from the siding to improve meet and pass capability.

Close Iris Street (000 730.83)
Closing Iris Street provides a 7,600' clear length in Beauvoir Siding. The GCWG Report to Congress proposed upgrading the siding and closing the road crossing to improve meet and pass capability.

Extend Gautier Siding to 22,000 ft.
Extending the siding to the Pascagoula River provides 15,000' of siding track with no road crossings to hold a train. The siding was extended from 7,760' to 15,000' in the original No Build Scenario, while extending it to 22,000' in the Build A Scenario.

Extend Madison Siding to 22,600 ft.
Extending the siding provides 15,000' of siding track to hold a train with no interference from existing road crossings. The siding was extended from 10,573' to 15,000' in the CSX No Build and to 22,600' in the CSX Build A1 Scenario.

Build A & A1 Scenarios

Siding Extensions
In the CSX model, many of the no build sidings that were modeled at 15,000' were extended in the build scenarios. When a 40-mph siding is extended from 15,000 ft. to 19,000' the additional 4,000' is not beneficial to the cost of extending the siding. HNTB modeled the no build siding lengths for all projects.

Storage Sidings
The CSX report specified that a new signaled siding with high speed turnouts be created to stage rock trains at each distributor. The benefits of clearing a train from the mainline can still be obtained if the storage tracks were non-signaled with slow speed turnouts at each end. This removes the cost of power switches and signals, totaling over $1.4M in savings per siding.

Shorten Michoud to Chef Menteur Double Track
The identified project extends the double track out of Gentilly Yard nearly 25,000' to the Chef Menteur moveable bridge. This proposed project includes expanding levee doors to support a second track. Stopping the double track extension before reaching the levee creates an additional 15,000' of double track, obtaining the benefits of the proposed project while saving significant construction cost by not building a $6.5M two-track levee door.

Shorten Chef Menteur to Rigolets Double Track

The Chef Menteur to Rigolets Double Track was replaced with a 30,000' siding with a universal crossover in the center of the siding. The double track extension from Michoud to the levee and Rigolets to Pearl River provides sufficient meet, pass and holding capacity for Gentilly yard.

Remove New Hurricane Siding

Hurricane siding was extended in the no build scenario and double track was added at the same location, while preserving the siding, in the Build A Scenario. In the Build A Scenario, this siding is not needed to provide any meet or pass capability due to the double track and is not needed to stage cars due to the construction of the Bay Minette storage siding.

Shorten Flomaton Double Track

The additional 0.6 miles of track proposed in the build scenarios versus the No Build Scenario was not viewed as beneficial due to road crossings. The road crossings limit the ability of a train to pull farther south towards the next siding, which removes most of the benefit of the added length. The 2.8-mile alternative from the No Build was used for the build scenarios.

Limit Track Class Upgrades

The build cases included returning the corridor to the passenger speeds in the June 1, 1999 *Agreement Between National Railroad Passenger Corporation and CSX Transportation, Incorporated*. For some locations the 1999 freight speed was 49 mph, requiring an increase to FRA track class 4. FRA track class 3 has a maximum speed of 40 mph for freight and 60 mph for passenger. By only increasing the freight maximum speed to 40 mph, some track class upgrades can be avoided while having no speed reduction on the passenger traffic. This was also applied to all new and extended sidings. Reducing freight speed from 45 mph to 40 mph results in no reduction for passenger speeds. Modeling showed that this reduction does not have a significant impact on freight operations.

Location of Siding for Amtrak Meets

The DeFuniak Springs siding in the build scenarios is occupied with road crossings limiting the siding's ability to be a useful meet location. The siding location was selected because it is where the eastbound and westbound passenger trains will meet. If the schedules were to change, then the meet location is different, making the benefit of the siding negligible. This siding would be moved to where the passenger trains are scheduled to meet once final schedules are approved.

Reduce and Replace Tallahassee Subdivision Sidings

The build scenarios contained eight additional new or extended sidings from the No Build Scenario. Sidings were added to provide a 10-mile spacing between sidings. However, several of these projects have limited usefulness due to the prevalence of road crossings. By choosing locations that do not have road crossings the number of sidings is reduced. By extending Drifton siding an additional 15,000' to the west and not adding Allen Siding or extending Chaires, Aucilla and Lee Sidings, the operational impact to freight and passenger operations is roughly equivalent.

Pearl River Bridge

In the Build A Scenario, CSX proposed building a new two-track bridge across the Pearl River to connect to Claiborne siding. Through value engineering, it is found to be more beneficial to construct a new main from Claiborne Siding to Nicholson Ave siding.

APPENDIX F: SCENARIO TRACK DIAGRAMS

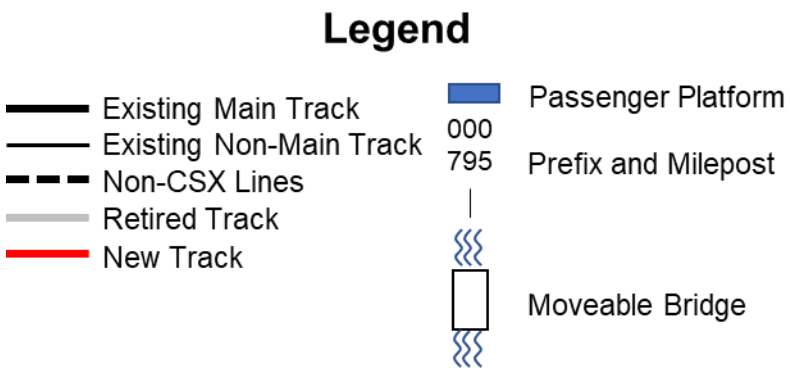
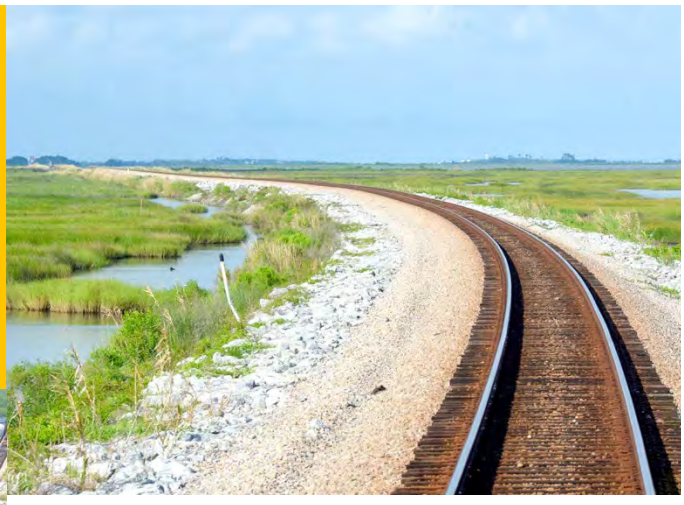
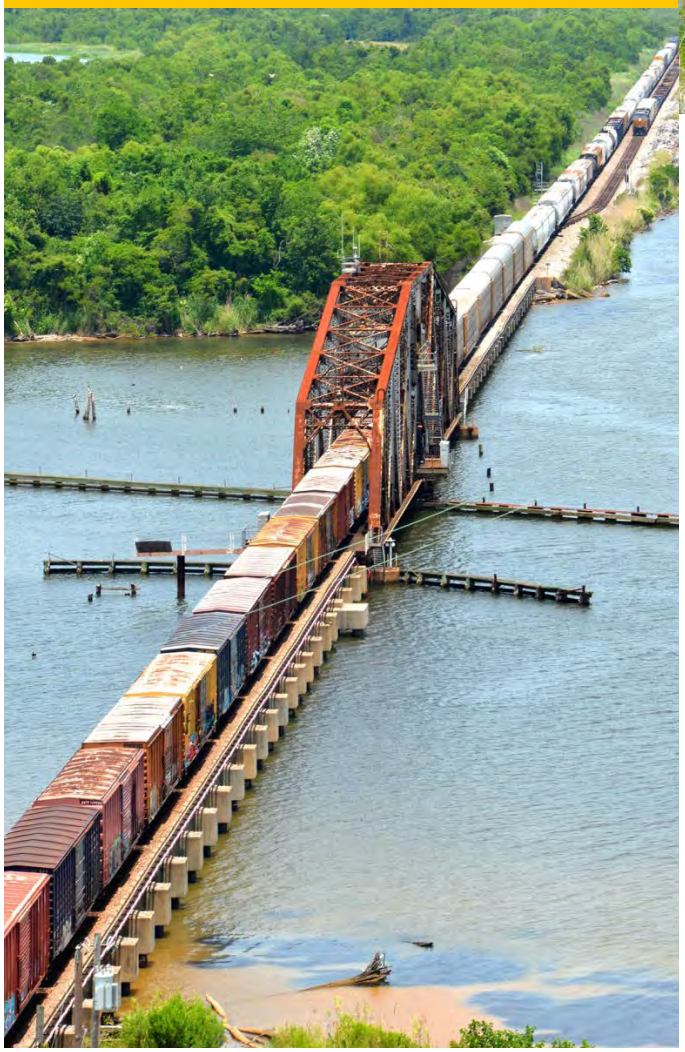


EXHIBIT G





Report on Operations Modeling Analysis for Implementing Passenger Rail Service on CSX Lines in the Gulf Coast Corridor

CSX Gulf Coast Passenger Rail

August 11, 2016

This report and the Operations Simulation and Operations Analysis it describes was prepared by HDR, Inc., under the direction of:

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Executive Summary

Photograph ES-1.

The long bridge across Bay St. Louis exemplifies the rail infrastructure of the proposed Gulf Coast corridor passenger route between New Orleans and DeLand. The crossing of Bay St. Louis shown here includes a drawbridge that opens 15 times a day, blocking rail operations for an average of 20 minutes per opening.

ES.1 Purpose of the Study

The purpose of this operational analysis is to develop an independent estimate of the location, quantity, and configuration of new infrastructure that is likely to be required to implement scheduled Amtrak passenger rail service along the Gulf Coast of the southeastern United States on rail lines owned by CSX Transportation between New Orleans, Louisiana, Mobile, Alabama, and DeLand, Florida. This estimate would account for the new infrastructure that is necessary to deliver the passenger trains with the best possible adherence to their scheduled time of arrival at endpoint stations, and the infrastructure necessary to mitigate impacts to freight train velocity caused by the implementation of the proposed passenger service. An order-of-magnitude cost estimate for the design, permitting, construction, and construction administration of this infrastructure, developed by CSX, is attached to this report as Appendix C. CSX developed this order-of-magnitude cost estimate from the infrastructure requirements identified by HDR in its operations simulation study, independently of HDR's operational analysis. This cost estimate is included in this report as a convenience to the reader; it has not been reviewed or validated by HDR, Inc.

A provision to study the implementation of passenger rail service between New Orleans and Florida was included in the Fixing America's Surface Transportation Act, the five-year federal surface transportation reauthorization signed into law on December 4, 2015.

In December 2015, Amtrak completed a feasibility study for the Southern Rail Commission entitled "Potential Gulf Coast Service Restoration Options," which recommended two options for reintroducing passenger rail service east of New Orleans: a daily extension of the long-distance City of New Orleans from Chicago eastward to Orlando along with a new state-supported daily round-trip corridor train between New Orleans and Mobile (Alternative A), or an extension of the City of New Orleans without an additional corridor train (Alternative A1). Figure ES-1 depicts the trains and stations to be served under each alternative.

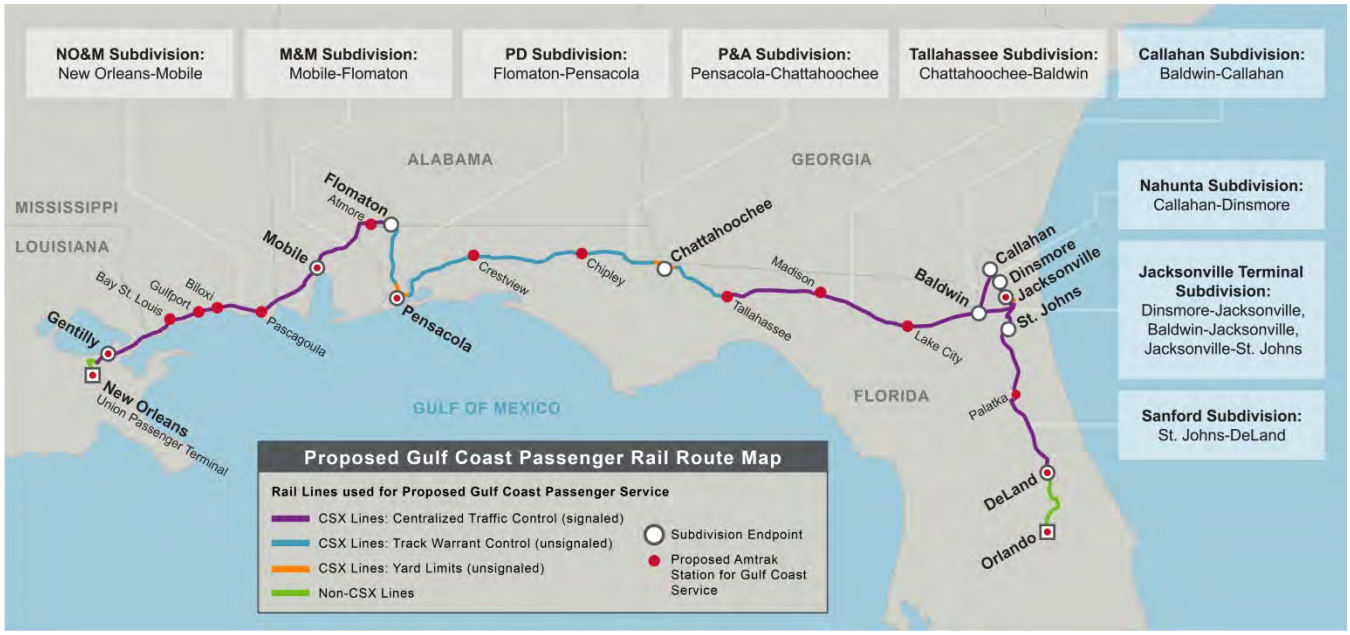
HDR performed a computer-based operations simulation of the two recommended passenger rail service options identified in the Amtrak feasibility study, Alternative A and Alternative A1, and determined the infrastructure required to implement these services on the CSX-owned trackage (only) between New Orleans and Orlando. The infrastructure identified by HDR included new "capacity projects" such as second main track, new sidings, siding extensions, and yard bypasses, and "speed improvement projects" such as implementation of signaling systems and main track speed increases. HDR did not identify other types of improvements that might be advantageous or necessary to implement the proposed passenger service, such as track reliability improvements, safety improvements, or station improvements.

Figure ES-1. Proposed Gulf Coast Passenger Rail Alternatives Map

The proposed Gulf Coast passenger corridor uses approximately 718 miles of CSX-owned freight rail lines between New Orleans, Louisiana, and DeLand, Florida. The corridor encompasses seven different subdivisions with dispatching and management divided among two different CSX operating divisions. The Atlanta Division manages operations and dispatches the portion of the route between New Orleans and South Pensacola, whereas the Jacksonville Division manages operates and dispatches the portion of the route between South Pensacola and DeLand. The Gulf Coast passenger corridor also includes trackage owned by Amtrak and Norfolk Southern in New Orleans, and by Florida Department of Transportation between DeLand and Orlando. However, these sections of the corridor not owned by CSX were not included in this operations simulation analysis.

The track infrastructure, method of operation, and signaling vary greatly among the seven different subdivisions. Infrastructure in the heavily used parts of the corridor between New Orleans and Mobile, and in Jacksonville, consists of frequent passing sidings or sections of double main track, with switches and signals remotely controlled by the train dispatcher. Less heavily used portions of the corridor in the Florida Panhandle are not signaled and require trains to operate upon receipt of verbal movement authority from a train dispatcher. Figure ES-2 depicts each of the CSX subdivisions in the proposed Gulf Coast passenger rail corridor.

Figure ES-2. Proposed Gulf Coast Passenger Rail Route Map



Other operational challenges associated with the delivery of scheduled passenger rail service on the corridor include the presence of 17 drawbridges, which open on the demand of marine traffic with minimum opening times of at least 7 to 30 minutes, siding infrastructure that is inadequate to support a scheduled passenger rail service, lack of spare capacity or room for freight expansion at major rail terminals, and an abundance of local freight trains that switch customers off sidings or the main track.

HDR Inc. prepared an operations simulation of the proposed Amtrak Gulf Coast services, Alternative A and Alternative A1, on the CSX-owned portion of the corridor only. HDR selected Alternatives A and A1 for this analysis at the direction of the FRA. The work performed by HDR included:

- Development of timetables for the proposed passenger service that reflect the proposed station stops, dwell times, train consists, and operating plan described in the Amtrak Proposal, that are compatible with the existing geometry, maximum authorized speeds, and other physical characteristics of the existing route, and that would deliver on-time performance in compliance with the requirements of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), also known as Public Law 110-432, as published as the *Metrics and Standards for Intercity Passenger Rail Service Under Section 207 of the Passenger Rail Investment and Improvement Act of 2008, i*n the Federal Register on May 12, 2010;
- Development of the necessary conceptual passenger-train required infrastructure, if any, to enable passenger trains to perform in compliance with PRIIA and the proposed timetable, e.g., station tracks or meet-pass locations required for passenger trains meeting with other passenger trains (inclusive of station platform locations only, and not station infrastructure itself);

- Estimation of the conceptual location and configuration of additional track infrastructure, and track and signaling improvements, necessary to mitigate the effect of the proposed passenger services on CSX's freight services;
- Estimation of the effect of the proposed passenger services on CSX's freight services, if any, when mitigation measures have been incorporated.

The target on-time performance of the passenger trains in the operations simulation model was 85% for the long-distance trains between New Orleans and Orlando, and 90% for the state-supported corridor trains between New Orleans and Mobile. On-time performance is, in brief, the percentage of all passenger trains of each type (long-distance or corridor) that arrive at their end-point stations at their scheduled arrival time or within the late-tolerance period prescribed by the *Metrics and Standards for Intercity Passenger Rail Service Under Section 207 of the Passenger Rail Investment and Improvement Act of 2008,* cited above.

CSX provided information to HDR about its existing infrastructure and freight operations, including timetables and freight train data (including freight train schedules, locomotives, and consist information), and provided an existing computerized operations model of the corridor (updated by HDR) so that HDR could accurately simulate current-day CSX freight operations in the corridor. The operations simulation modeling software used by HDR for this analysis was Rail Traffic Controller © (RTC), developed by Berkeley Simulation Software, LLC. The freight train data used to build the model is considered by CSX to be proprietary and confidential. As a result, the data used to create, operate, and analyze those models is summarized only at a high level in this report.

Four operations simulation cases were developed:

- Base Case, to calibrate the model to current-day operating conditions.
- No-Build Case, to estimate the additional infrastructure, compared to today, required to operate CSX freight trains anticipated to be operated by CSX in the year 2040. (The frequency, length, and type of freight trains anticipated to be operated in 2040 were estimated by CSX using U.S. Department of Transportation Freight Analysis Framework data that forecasts future freight volumes on a geographic basis.)
- Build Case, Alternative A, to estimate the additional infrastructure, compared to the No-Build Case, required in the year 2040 to operate the proposed long-distance and state-supported corridor passenger trains, while maintaining the estimated performance of the CSX freight trains simulated in the No-Build Case, and, to estimate the on-time performance of the proposed passenger trains.
- Build Case, Alternative A1, to estimate the additional infrastructure, compared to the No-Build Case, required in the year 2040 to operate the proposed long-distance passenger trains, while maintaining the estimated performance of the CSX freight trains simulated in the No-Build Case, and, to estimate the on-time performance of the proposed passenger trains.

For each case, the operations simulation model was dispatched five times (five “RTC model runs”), with each dispatch comprising a 14-day period of rail operations. Train performance data, consisting of passenger-train on-time performance and freight train delay per 100 train-miles, was extracted from the middle 10 days of the 14-day period only. Each RTC model run incorporated randomization parameters

in order to simulate normal variations in train operations that would be experienced in the corridor, such as trains arriving late to the corridor, normal variation in passenger train dwell times at stations, and the openings of drawbridges to allow marine traffic to pass. Infrastructure was iteratively added as follows:

- To the No-Build Case, new (i.e., not existing today) infrastructure was incorporated into the operations simulation model to enable freight trains to operate over the corridor with freight-train delay per 100 train-miles similar to the Base Case. This infrastructure consisted of 38 track-miles of yard bypasses, siding extensions, and new sidings. No improvements were made in maximum authorized speeds of the main track. Segments of the main track equipped with signaling systems today remained signaled, and segments not signaled today remained unsignaled. No improvements were made to drawbridges.
- To the Build Cases for both Alternatives A and A1, new infrastructure was incorporated – in addition to the infrastructure already added to the No-Build Case – to enable the passenger trains to operate over the corridor with the best possible attainment of the desired on-time percentage, and to mitigate impacts of the proposed passenger service on the freight trains projected to operate in 2040 in the No-Build Case.

Infrastructure added to the No-Build and the Alternative A and A1 Build Cases was schematically diagrammed by HDR to achieve the desired operational performance from the perspective of the least total amount of infrastructure possible (i.e., least track-miles). These diagrams (as detailed in Appendix B) were provided to CSX for its cost-estimate purposes. Infrastructure schematically identified by HDR was not assessed by HDR or CSX for its constructability, least cost, or engineering feasibility. It was assumed by HDR that right-of-way that would be required by the proposed infrastructure would be available, and that the projects would be constructible and feasible from an engineering, environmental impact and permitting perspective.

ES.2 Results of the Operations Simulation

The results from all five model runs were aggregated to estimate passenger train on-time performance and freight train impacts. Even with the additional infrastructure input into the Build Case model, none of the passenger train alternatives modeled produced PRIIA-compliant on-time performance results. Performance of the state-supported corridor train ranged from 66% westbound to 83.7% eastbound. Performance of the long-distance train ranged from 72% westbound to 62% eastbound. In Alternative A1, the performance of the long-distance train showed a modest improvement, rising to 76% westbound and 66% eastbound. Approximately 50% of all passenger trains operated with zero minutes of delay. Another 20% to 25% of passenger trains operated with minimal delay and completed their runs within the lateness tolerance established by PRIIA. The rest of the passenger trains completed their runs 30 to 800 minutes behind schedule. These results are displayed graphically in Section 6 of this report (“Results”).

Photograph ES-2.

The station at Biloxi, Mississippi has not seen regular passenger rail service since the Sunset Limited was suspended in 2005.

Changes in freight train minutes of delay per 100 train-miles that occur as a result of the passenger service were also measured and compared against freight train delay in the No-Build Case. Results were measured for the five different freight train types that commonly operate in the corridor. Freight train performance varied, in some cases improved from the No-Build Case and in some cases degraded from the No-Build Case. Considered as a whole, among all freight train types, the performance was similar to the No-Build Case, however, the most time-sensitive freight train type (intermodal) was degraded significantly.

Infrastructure requirements to enable the operations simulation model to dispatch and achieve the results described above in the No-Build and Build Cases are as follows.

- No-Build Case infrastructure consisted of:
    - 38 track-miles of new track
- Build Case infrastructure incorporated into Alternative A consisted of:
    - 144 track-miles of new second main track, sidings, siding extensions, and yard bypasses (these track-miles are in addition to the 38 track-miles incorporated in the No-Build Case)
    - 150 miles of main track speed increase to 79 mph maximum authorized speed (Tallahassee Subdivision)

  - 243 miles of CTC added (Tallahassee, P&A, PD Subdivisions)
  - 2 existing single-track drawbridges each replaced with a double-track drawbridge (Chickasawbogue River and Pearl River)
  - 1 existing two-track drawbridge replaced with a three-track drawbridge (Three Mile Creek)

- Build Case infrastructure incorporated into Alternative A1 consisted of:

  - 136 track-miles of new second main track, sidings, siding extensions, and yard bypasses (these track-miles are in addition to the 38 track-miles incorporated in the No-Build Case)
  - 150 miles of main track speed increase to 79 mph maximum authorized speed (Tallahassee Subdivision)
  - 243 miles of CTC added (Tallahassee, P&A, PD Subdivisions)
  - 1 existing single-track drawbridge replaced with a double-track drawbridge (Chickasawbogue River)
  - 1 existing two-track drawbridge replaced with a three-track drawbridge (Three Mile Creek)

In addition to the improvements listed above, required by the operations simulation model to deliver the results obtained in the report, CSX informed HDR that there are other improvements they will require to support the implementation of passenger rail service, including the installation of Positive Train Control (PTC) on all portions of the corridor not currently so equipped, and track upgrades to deliver a reliable passenger service. These improvements are included in the cost estimates provided by CSX in Appendix C.

The operations simulations described in this report are high-level and were conducted on an accelerated schedule. Additional and more detailed operations simulation would be required in order to accurately identify all necessary infrastructure improvements and passenger timetable revisions required to accurately estimate the performance of the proposed passenger service and to eliminate impacts on forecasted future CSX freight trains, and impacts on capacity, velocity, and flexibility for freight train services in the corridor that would otherwise be available to CSX.

Contents

Figures

Tables

Photographs

Appendixes

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1.0 Background

Photograph 1-1.

CSX's NO&M Subdivision linking New Orleans and Mobile crosses Pearl River Island in Louisiana

1.1. Reason for Study

The purpose of this operational analysis is to develop an independent estimate of new infrastructure that is likely to be required to implement scheduled Amtrak passenger rail service along the Gulf Coast of the southeastern United States on rail lines owned by CSX Transportation between New Orleans, Louisiana, Mobile, Alabama, and DeLand, Florida. The Gulf Coast passenger corridor also includes trackage owned by Amtrak and Norfolk Southern in New Orleans, and by Florida Department of Transportation between DeLand and Orlando. However, these sections of the corridor not owned by CSX were not included in this operations simulation analysis.

A provision to study the implementation of passenger rail service between New Orleans and Florida was included in the Fixing America's Surface Transportation Act, the five-year federal surface transportation reauthorization signed into law on December 4, 2015. Amtrak had been operating a triweekly passenger train, the Sunset Limited from Los Angeles, on this route until 2005, when Hurricane Katrina caused service to be suspended east of New Orleans. Section 11304 of the FAST Act required the Federal Railroad Administration to establish a passenger rail working group to evaluate the restoration of railroad passenger service in the Gulf Coast region between New Orleans, Louisiana, and Orlando, Florida. As a result, FRA established the Gulf Coast Passenger Rail Working Group,

whose mission is to plan for and recommend capital and operating solutions to restore improved passenger rail service to the Gulf Coast within nine months of the FAST Act's passage.

The Gulf Coast Working Group is led by FRA, and includes members from CSX, Amtrak, the Southern Rail Commission, local elected officials, and representatives from state departments of transportation, metropolitan planning organizations, corporations, and tribes within the states of Louisiana, Mississippi, Alabama, and Florida. The commission is charged with completing a report for the United States Congress by September 2016 that evaluates potential passenger rail service options and recommends a preferred alternative, with projected capital requirements, cost estimates, funding sources, and other actions required to implement the service.

In December 2015, Amtrak completed a feasibility study for the Southern Rail Commission entitled "Potential Gulf Coast Service Restoration Options," which recommended two options for reintroducing passenger rail service east of New Orleans: a daily extension of the long-distance City of New Orleans from Chicago eastward to Orlando along with a new state-supported daily round-trip corridor train between New Orleans and Mobile (Alternative A), or an extension of the City of New Orleans without an additional corridor train (Alternative A1) . FRA subsequently requested that CSX prepare a computer-based operations simulation of the two recommended passenger rail service options identified in the Amtrak feasibility study, Alternative A and Alternative A1, and determine the capital projects required to implement these services on the CSX-owned trackage between New Orleans and Orlando. Figure 1-1 depicts the trains and stations to be served under each alternative.

Figure 1-1. Proposed Gulf Coast Passenger Rail Alternatives Map

HDR Inc. performed an independent operations simulation of the proposed Amtrak Gulf Coast services, Alternative A and Alternative A1. The work performed by HDR included:

- Development of timetables for the proposed passenger service that reflect the proposed station stops, dwell times, train consists, and operating plan described in the Amtrak Proposal, that are compatible with the existing geometry, maximum authorized speeds, and other physical characteristics of the existing route, and that would deliver on-time performance in compliance with the requirements of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA)
- Development of the necessary conceptual passenger-train required infrastructure, if any, to enable passenger trains to perform, in the year 2040, in compliance with PRIIA and the proposed timetable, e.g., station tracks or meet-pass locations required for passenger trains meeting with other passenger trains
- Estimation of the conceptual location and configuration of additional track infrastructure necessary to mitigate the effect of the proposed passenger services on CSX's freight services forecast for the year 2040.
- Estimation of the effect of the proposed passenger services on CSX's freight services forecast for the year 2040, if any, when mitigation measures have been incorporated

To aid in this study, CSX provided information about its existing infrastructure and freight operations, including timetables and freight train data (including freight train schedules, locomotives, and consist

information), and provided a framework computerized operations model so that HDR could accurately represent current CSX freight operations in the corridor. The operations simulation modeling software used by CSX and HDR for this analysis was Rail Traffic Controller © (RTC), developed by Berkeley Simulation Software, LLC. The freight train data used to build the model is considered by CSX to be proprietary and confidential. As a result, the data used to create, operate, and analyze those models was summarized only at a high level in this report.

1.2. Prior Amtrak Operations in the Corridor

Prior to the formation of Amtrak, the Louisville & Nashville Railroad, a predecessor of today's CSX Transportation, had operated both intercity passenger and commuter trains on its line between New Orleans and Mobile. The last of L&N's passenger trains on the line ended on May 1, 1971, when the National Railroad Passenger Corporation (Amtrak) assumed responsibility for providing passenger rail service across the United States.

Amtrak first operated passenger rail service in the Gulf Coast region in April 1984 during the Louisiana World Exposition, with the inauguration of the Gulf Coast Limited, a single daily round trip between New Orleans and Mobile. The train's operation was financially supported by the states of Louisiana, Mississippi, and Alabama, but when Mississippi withdrew its support, the service ended in January 1985. Amtrak reinstated the state-supported corridor train in 1996, but funding issues between the states for the service prompted its discontinuance in March 1997.

Mobile was also served by another daily Amtrak train, the Gulf Breeze, which operated between Mobile and Birmingham, and provided through-car connecting service to and from New York with Amtrak's Crescent from New Orleans. The train used the proposed Gulf Coast passenger route between Flomaton and Mobile, and operated from 1989 to 1995.

In April 1993, Amtrak extended its Los Angeles-New Orleans long-distance train, the Sunset Limited, east to Florida, operating three days per week in each direction. The Sunset Limited had the distinction of being the only true coast-to-coast passenger train in the United States, making a 3,066-mile trip between Los Angeles and Miami. The length of the route, primarily on single-track freight rail lines experiencing significant increases in commercial freight traffic, along with various schedule and service changes implemented to improve the cost-efficiency of the train's operation, impacted operating reliability and ridership. In 1996, the train's eastern terminus was cut back to Sanford, Florida, then moved again in 1997 to Orlando.

Service east of New Orleans abruptly ended in 2005 when Hurricane Katrina struck the Gulf Coast, destroying the CSX railroad line between New Orleans and Mobile. Freight rail service was restored after an extraordinary five-month rebuilding of the railroad line and its bridges, but passenger rail service has remained suspended.

1.3. Summary of Amtrak Study for SRC

Photograph 1-2.

Riders prepare to board a state-supported train in Michigan. Amtrak proposes to use similar single-level Horizon equipment for a proposed state-supported corridor train between New Orleans and Mobile.

In December 2015, Amtrak completed a feasibility study for the Southern Rail Commission entitled "Potential Gulf Coast Service Restoration Options," which identified five options for reinstating passenger rail service between New Orleans and Orlando, as follows:

Alternatives A and A1: Extend a portion of the City of New Orleans consist from New Orleans to Orlando, with (Alternative A) or without (Alternative A1) a single daily state-supported train, priced under the Passenger Rail Investment and Improvement Act, Section 209 methodology (PRIIA 209) between New Orleans and Mobile.

The study projected that Alternative A would generate an annual ridership of 153,900 passengers and would require an annual operating (and PRIIA 209 Equipment Capital) funding commitment of $9.49 million. Alternative A provided the highest total ridership among all the alternatives analyzed. Alternative A1 was projected to generate annual ridership of 138,300 passengers, the second highest among all alternatives, and require an annual operating funding commitment of $5.48 million, the lowest level of identified operating need.

Alternatives B and B1: Operate two daily state-supported round trips between New Orleans and Mobile, to be priced and funded by the state partners under the PRIIA 209 methodology without

(Alternative B) or with (Alternative B1) a Thruway bus connection between Mobile and Jacksonville with a connection to Amtrak's New York-Tampa-Miami Silver Star at Jacksonville.

Alternative B was projected to generate an annual ridership of 38,400 passengers, the lowest of all alternatives, and require an annual PRIIA 209 operating and equipment capital funding commitment of $6.97 million. Alternative B1 was projected to generate an annual ridership of 43,400 passengers and require an annual PRIIA 209 operating and equipment capital funding commitment of $8.26 million.

Alternative C: Operate one daily long distance round trip between New Orleans and Orlando. This alternative would generate annual ridership of 69,100 passengers and would require an annual operating funding commitment of $14.4 million.

None of the costs identified in the study and listed above included capital costs for track, station, signaling, or other infrastructure improvements required to reinstitute passenger service in the corridor.

The study noted that Alternatives A and A1 yielded the highest ridership demand and cost efficiency, in large part because of the ability for passengers to have a one-seat ride between Gulf Coast destinations and existing stations along the City of New Orleans route to Chicago.

The study concluded by identifying the following future steps required to continue the process of reinstating passenger service:

1. Approach the host railroads (chiefly CSX) to identify any infrastructure needs for the proposed service
2. Identify and develop operating and capital funding mechanisms to support any proposed service
3. Identify and build support from institutions which are likely to benefit from, and attract riders to, the proposed Gulf Coast service
4. Work with communities on plans to revitalize station facilities
5. Refine service proposals as a clearer picture emerges of the infrastructure environment and as marketing opportunities are developed along the route.

As part of Step 1, FRA subsequently requested that CSX perform computerized operations modeling of Alternatives A and A1 to determine infrastructure needs for service implementation under each alternative.

In its feasibility study, Amtrak prepared conceptual train schedules and consists for each option. Under Alternative A and A1, Amtrak would extend a portion of the City of New Orleans train from New Orleans through to Orlando, making intermediate station stops at Bay St. Louis, Gulfport, Biloxi, Pascagoula, Mobile, Atmore, Pensacola, Crestview, Chipley, Tallahassee, Madison, Lake City, Jacksonville, Palatka, DeLand, and Winter Park. The eastbound train would depart New Orleans in the late afternoon, Mobile in the evening, Tallahassee early the next morning, Jacksonville mid-morning, and arrive into Orlando late morning. The westbound train would depart Orlando in the early afternoon, Jacksonville late afternoon, Tallahassee in the evening, Mobile early the next morning, and arrive into New Orleans mid-morning.

Under Alternative A only, Amtrak would also operate a single state-supported round-trip corridor train eastbound in the morning and westbound in the afternoon/evening between New Orleans and Mobile,

on opposite-time-of-day schedules to the City of New Orleans, making intermediate station stops at Bay St. Louis, Gulfport, Biloxi, and Pascagoula. Table 1-1 presents the conceptual timetable developed for Alternatives A and A1 for stations between New Orleans and Orlando.

Table 1-1. Conceptual Schedules from Amtrak's 'Potential Gulf Coast Restoration Options' Report (December 2015)

Eastbound (Read Down)			**Direction**		**Westbound (Read Up)**	
Alternative A Only	Alternatives A and A1		Alternatives		Alternatives A and A1	Alternative A Only
New Orleans-Mobile	City of New Orleans		Train Time		City of New Orleans	Mobile-New Orleans
TBD 4	59		Train Number		58	TBD 3
Daily	Daily		Normal Days of Operation		Daily	Daily
		Mile	Station	Mile		
8:00 AM	Dp 5:00 PM	0	New Orleans, LA (CST)	767	Ar 9:30 AM	8:23 PM
9:13 AM	6:13 PM	56	Bay St. Louis, MS	711	7:47 AM	6:44 PM
9:35 AM	6:35 PM	71	Gulfport, MS	696	7:25 AM	6:22 PM
9:53 AM	6:53 PM	83	Biloxi, MS	684	7:07 AM	6:04 PM
10:17 AM	7:17 PM	103	Pascagoula, MS	664	6:43 AM	5:40 PM
11:13 AM	8:18 PM	143	Mobile, AL	624	6:03 AM	5:00 PM
	9:12 PM	188	Atmore, AL	579	4:10 AM	
	Ar 10:39 PM	247	Pensacola, FL	520	Dp 2:43 AM	
	Dp 10:45 PM	247	Pensacola, FL	520	Ar 2:37 AM	
	11:49 PM	296	Crestview, FL	471	1:33 AM	
	1:11 AM	363	Chipley, FL (CST)	404	12:11 AM	
	5:00 AM	449	Tallahassee, FL (EST)	318	11:10 PM	
	6:14 AM	505	Madison, FL	262	9:38 PM	
	7:04 AM	554	Lake City, FL	213	8:48 PM	
	Ar 8:15 AM	620	Jacksonville, FL	147	Dp 7:45 PM	
	Dp 8:31 AM	620	Jacksonville, FL	147	Ar 7:25 PM	
	9:36 AM	678	Palatka, FL	89	6:01 PM	
	10:21 AM	730	DeLand, FL	37	5:15 PM	
	11:02 AM	762	Winter Park, FL	5	4:33 PM	
	Ar 11:30 AM	767	Orlando, FL (EST)	0	Dp 4:15 PM	
03:13	17:30		Total Trip Time		18:15	03:23

The City of New Orleans extension equipment would be maintained overnight at Amtrak's Sanford, FL Auto Train facility. The state-supported corridor train's equipment would be maintained at Amtrak's facility in New Orleans, with contract cleaning and turnaround services provided at a new facility in Mobile. Table 1-2 presents the consist assumptions for each train under Alternatives A and A1.

Photograph 1-3.

The proposed City of New Orleans consist would use bilevel Superliner equipment.

Alternatives A and A1 assume that the City of New Orleans would operate with one P-42 locomotive, one Superliner coach, one Superliner coach-baggage, one Superliner Cross-Country Café car, and one Superliner sleeping car would operate through from Chicago to Orlando on a year-round basis, while the rest of the consist would turn at New Orleans. On some peak dates, however, an additional coach and/or the transition sleeping car from the City of New Orleans might also operate through in order to capture all ridership demand and revenue. The state-supported corridor round trip would operate with one P-42 locomotive, two Horizon coaches, and a Horizon Club Dinette (offering both food service and Business Class) in dedicated Gulf Coast service.

Table 1-2. Amtrak Alternative A/A1 Consist Proposal

Equipment Type	Units per Trainset
City of New Orleans extension	
P-42 Diesel Locomotive	1
Superliner Coach (see Note below)	1*
Superliner Cross-Country Café	1
Superliner Sleeper	1

Equipment Type	Units per Trainset
Superliner Coach-Baggage	1
Superliner Transition Sleeper (see Note)	*
State-Supported Corridor Train (Not included in Alternative A1)	
P-42 Diesel Locomotive	1
Horizon Coach	2
Horizon or Amfleet I Club Dinette	1

Note:
City of New Orleans trainset will run with a second Superliner Coach or a Transition Sleeper on demand during peak season.

2.0 Organization and Structure of Report

Photograph 2-1.

Claiborne siding is a signaled siding on the NO&M Subdivision.

This report begins with a discussion of the background and reasons for the study (Chapter 1). A detailed look at existing infrastructure and operations follows (Chapter 3), including a discussion of the most significant existing operational challenges that prevent passenger rail service from being implemented in the corridor without infrastructure improvements to enable a consistent, reliable, on-time performance.

Chapter 4 discusses the computer-based operations modeling software and the development of modeling cases to simulate existing operations and determine the effects on future operations of the

proposed passenger rail service, the outputs that would be recorded, and the parameters for randomization. Chapter 6 discusses the parameters and assumptions of the operations simulation model, including the geographic limits of the model, the timeframes being modeled, the types of trains being modeled, and their performance characteristics. Chapter 7 presents the result of the modeling.

3.0 Existing Corridor Infrastructure and Operations

Photograph 3-1.

A CSX merchandise freight departs Moncrief Yard and approaches the Beaver Street interlocking in Jacksonville.

3.1. Infrastructure

3.1.1. Basic Parameters of Infrastructure

The proposed Gulf Coast passenger corridor uses approximately 718 miles of CSX-owned freight rail lines between New Orleans, Louisiana, and DeLand, Florida. The corridor encompasses seven different subdivisions with dispatching and management divided among two different CSX operating divisions. The Atlanta Division manages operations and dispatches the portion of the route between New Orleans and South Pensacola, whereas the Jacksonville Division manages operates and dispatches the portion of the route between South Pensacola and DeLand. The Gulf Coast passenger corridor also includes trackage owned by Amtrak and Norfolk Southern in New Orleans, and by Florida

Department of Transportation between DeLand and Orlando. However, these sections of the corridor not owned by CSX were not included in this operations simulation analysis.

The track infrastructure, method of operation, and signaling vary greatly among the seven different subdivisions. Infrastructure in the heavily used parts of the corridor between New Orleans and Mobile, and in Jacksonville, consists of frequent passing sidings or sections of double main track, with switches and signals remotely controlled by the train dispatcher. Less heavily used portions of the corridor in the Florida Panhandle are not signaled and require trains to operate upon receipt of verbal movement authority from a train dispatcher. The means by which a train is granted the right to operate over a portion of railroad track is called Movement Authority. The CSX lines in the proposed Gulf Coast passenger corridor operate under one of the following three types of Movement Authority (the definitions below are based on CSX's "Operating Rules" dated January 1, 2014):

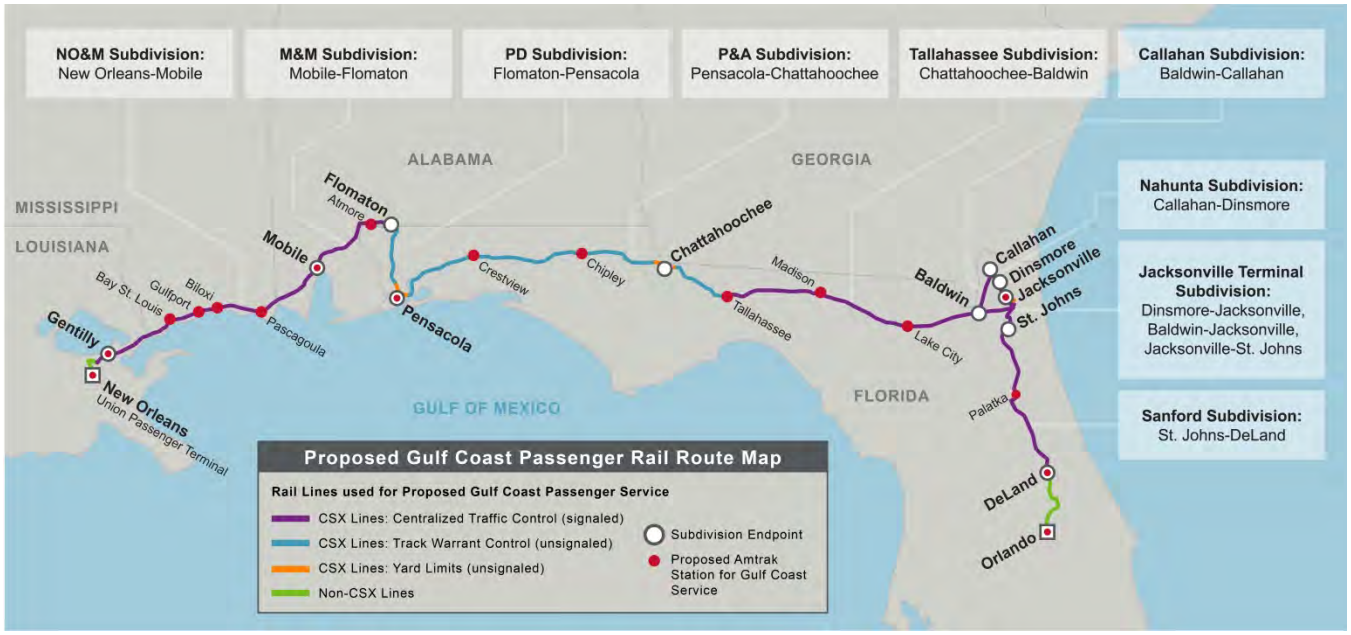
Centralized Traffic Control (CTC): Movement is authorized through the use of wayside signals that are controlled remotely by a train dispatcher.

Track Warrant Control (TWC): Movement is authorized through verbal authority granted by a train dispatcher. The dispatcher issues a Track Warrant over the radio that dictates the beginning and ending limits of the line segment that the train is authorized to move through. On CSX lines, TWC is in effect on lines that are unsignaled.

Yard Limits: Movement through a designated terminal area that is authorized by a train dispatcher, either through verbal authority or the operation of remotely controlled signals (if the line is so equipped). Trains are required to operate through Yard Limits on the main track at a speed that permits stopping within one-half the range of vision, stopping short of any obstruction or Stop signal, not to exceed 20 mph until the leading end reaches the far limits.

The Code of Federal Regulations (49 CFR Part 236.0) limits maximum passenger train speeds to 59 mph on lines not equipped with signals, and 79 mph on lines equipped with signals but not equipped with automatic cab signaling, automatic train stop (ATS), or an automatic train control (ATC) system to stop a train in the event of a signal override. None of the CSX lines in the proposed Gulf Coast passenger corridor are equipped with cab signaling, ATS, or ATC. CSX is in the process of installing positive train control as an overlay to its CTC-signaled lines between New Orleans, Mobile and Montgomery, and between the Jacksonville Terminal area and DeLand. Figure 3-1 shows each of the CSX subdivisions that comprise the proposed Gulf Coast passenger rail corridor.

Figure 3-1. Proposed Gulf Coast Passenger Rail Route Map



The proposed Gulf Coast passenger corridor is comprised primarily of lines with a single main track over which trains move in both directions. Meets between trains take place at designated auxiliary tracks, called sidings, located at varying intervals of distance. Many lines in the Jacksonville terminal area, and to a lesser extent in the Mobile and New Orleans terminal areas, are equipped with two main tracks, which allow two trains to meet or pass without conflict.

Lines in the Gulf Coast corridor are equipped with two different types of sidings, which have implications for operations on the line.

Signaled Siding (SSDG): A signaled siding is equipped with block signals that govern train movements on the siding.

Controlled Siding (CSDG): A track designated as a controlled siding is used for the purposes of meeting and passing trains. In signal territory, signals do not govern movement on the siding. Entrance and exit signals only authorize trains to enter or leave the siding.

Controlled sidings have signals at each end that authorize movement into and out of the siding through the siding turnout. However, the siding track itself is not bonded or signaled. As a result, trains are required by the operating rules to enter and move through the siding at Restricted Speed, which is a speed that permits stopping within one-half the range of vision, but not exceeding 15 mph, as designated in the CSX employee timetable. Movement departing the siding, on signal indication, is limited to no more than 20 or 25 mph, as designated in the employee timetable. On lines without signals, maximum speeds on controlled sidings are designated in the employee timetable as either 10 or 15 mph.

By contrast, speeds on signaled sidings are controlled by signal indications, enabling trains on CSX lines to enter those sidings at speeds between 20 mph and 30 mph as designated by the signals and shown in the employee timetable.

Drawbridges over navigable waterways present another pervasive and significant operating constraint on the corridor, as passenger trains may not proceed across them at more than 30 mph, and freight trains are limited to 25 mph. (the one exception is the Industrial Canal drawbridges in New Orleans, which has a track speed of 40 mph for passenger trains on Track 1 and 20 mph on Track 2, but restricts all freight movements to 20 mph.) In addition, bridge openings, which could last up to 30 minutes, force all train movements in the vicinity of the drawbridges to come to a stop until the bridge is lowered. Bridge openings occur at random and can delay approaching trains at any time, regardless of a train's priority.

Table 3-1 below presents some basic infrastructure characteristics of each subdivision in the proposed Gulf Coast passenger corridor. Under current operating conditions, the capacity of the infrastructure in the corridor and the CSX freight train operating plan for it are closely matched. The operating plan has been designed to utilize the existing infrastructure to deliver the maximum value to rail customers. There is very little spare track capacity in this corridor.

Table 3-1. General Infrastructure Characteristics of Subdivisions Comprising the Proposed Gulf Coast Passenger Corridor

Subdivision (Division)	Endpoints	Miles	Movement	Main Tracks	Passenger MAS	Drawbridges	SSDG	CSDG
NO&M (ATL)	New Orleans-Mobile	138.5	CTC	1-2	79 mph	7	3	7
M&M (ATL)	Mobile-Flomaton	58.2	CTC	1-2	79 mph	5	4	3
PD (ATL)	Flomaton-Pensacola	37.8	TWC	1	59 mph	0	0	3
P&A (JAX)	Pensacola-Chattahoochee	165.7	TWC/YL	1	59 mph/ 20 mph	2*	0	4
Tallahassee (JAX)	Chattahoochee-Baldwin	189.5	TWC/CTC/YL	1	50 mph**/ 20 mph	0	4	10
Jacksonville Terminal: SP Line (JAX)	Baldwin-Jacksonville	18.0	CTC	1-2	79 mph	0	1	1
Jacksonville Terminal: A Line (JAX)	Jacksonville-St. Johns	8.8	CTC	1-2	79 mph	0	0	0
Sanford (JAX)	St. Johns-DeLand	101.4	CTC	1	79 mph	3	9	0

Notes:
*One drawbridge on the P&A Subdivision is permanently lined and locked for train movements.
**Passenger MAS will be increased to 79 mph between Tallahassee and Baldwin as part of the proposed passenger rail restoration

A discussion of each specific subdivision follows.

3.1.2. NO&M Subdivision

Photograph 3-2.

CSX intermodal train Q145 rolls beneath the Mobile Convention Center on its journey to New Orleans.

The NO&M Subdivision extends 138.5 miles between New Orleans and Mobile. The line runs in sight of the Gulf of Mexico at several locations, and serves the major intermediate cities of Bay St. Louis, Gulfport, Biloxi, and Pascagoula. The line is signaled with Centralized Traffic Control, and Positive Train Control has also been installed.

CSX has significant freight terminals at each end of the NO&M Subdivision. New Orleans is a major railroad gateway where CSX interchanges cars with five other Class I railroads and a local terminal railroad. Mobile generates substantial local industrial traffic, contains a seaport that receives unit trains of export coal and grain, and is an interchange point between CSX and two Class I railroads, one regional railroad, and a terminal railroad. In between the two major cities, Bayou Cassotte Yard near Pascagoula also generates substantial rail traffic, and is the base for four local trains.

The NO&M Subdivision is primarily single track with passing sidings, but has sections of double main track at each end. At the south end in New Orleans, the NO&M Subdivision begins as a double-track line at the junction with Norfolk Southern's Back Belt, and continues 2.4 miles north to CSX's Gentilly Yard. One main track exists in the 2.1-mile segment past Gentilly Yard, then double main track resumes for 6.1 miles north to control point Michoud. At the other end of the subdivision, in Mobile, a 1.8-mile section of double main track feeds into CSX's Sibert Yard.

Approximately 20 percent of the 138.5-mile line is equipped with additional track to allow for the meeting or passing of mainline trains, of which 10.0 miles is designated as second main track and 17.4 miles is contained in sidings. The line has 10 passing sidings, three of which are signaled sidings.

Train lengths are growing on this line, and many trains today are operating at 9,000 to 10,000 feet in length, which prevents the use of the shorter sidings for meet/pass events. There are only a limited number of places that long trains like these can pass. As a result, trains may have to hold at the longer sidings and wait for longer time periods to pass other long trains. If there are too many long waits, a train crew may exhaust its hours of on-duty time before reaching the terminal (federal law limits train crews to a maximum of 12 hours on duty), in which case a new crew must be summoned and brought to the train to resume its operation.

The predominance of controlled sidings, instead of signaled sidings, creates operational delays, as trains cannot enter a controlled siding at a speed greater than 15 miles per hour. With train lengths of 8,000 feet or more common on this line, a train might need up to 20 minutes to enter a siding, causing delays for following trains and increasing wait times for trains holding the main track waiting to complete the siding meet.

Photograph 3-3.

Brookley siding is the longest on the NO&M Subdivision, at 10,395 feet, but is often used as a staging track for trains waiting to enter Sibert Yard in Mobile, preventing it use for meets. Grade crossings near both ends of the siding, and a customer switch off the main track (at right) further complicate operations at Brookley.

The average siding length on the subdivision is 8,066 feet, and only one siding exceeds 10,000 feet in length. Other sidings, such as Gautier, Beauvoir, and Harbin, exceed 7,000 feet in length but are bisected by road crossings, which limits their “clear length” (the length a train could wait in the siding

without blocking a grade crossing) to about 5,000 feet. The longest siding on the line is Brookley, the first siding south of Mobile, at 10,395 feet. It is often used to stage trains waiting to setout or pickup cars at Sibert Yard in Mobile, preventing its use for meets between trains departing from or passing through Mobile without work. Just south of Brookley siding is the at-grade crossing of Navco Road. This road provides the only access to a residential neighborhood, and prevents the Brookley siding from being extended south for any significant distance.

Photograph 3-4.

Rigolets drawbridge opens 15 times per day, on average, and will delay trains for 24 minutes or more per opening.

Operational delays are also caused by the line's seven drawbridges over navigable waterways. All of the drawbridges are staffed with an on-site bridge tender, and six of the seven are staffed 24 hours a day. (The seventh drawbridge is staffed during daylight hours only on two shifts.) Marine traffic has priority and the bridges open on demand at random. One bridge opening could delay a train a minimum of 7 to 30 minutes, and produce cascading delays down the line. Track speed for freight trains across each drawbridge is 25 mph, less than half the line's maximum authorized freight train speed of 60 mph, further slowing operations. When bridge tenders change shifts, they typically use a hi-rail vehicle (a vehicle equipped with both rubber tires and flanged wheels to operate on both roadways and railroad tracks) to transition between the bridge and an employee parking area. This transitioning move with the hi-rail vehicle could block the main line for up to an hour.

The region's flat terrain and closely spaced coastal cities have caused a large number of highway grade crossings to be built across the railroad line. In the 139 miles of NO&M Subdivision trackage between New Orleans and Mobile, there are 152 road crossings equipped with automatic warning devices. Half of those crossings (75 of them) are bunched into one 30-mile segment of the rail line

between Biloxi and Bay St. Louis. To keep trains moving safely through this area, freight and passenger trains are held to a speed of 45 mph in this 30-mile segment, except for four sections of about 2 miles or less each where speeds are slightly higher (60 mph for passenger trains, 50 to 60 mph for freight).

Photograph 3-5.

The Gulf Coast corridor passes through several cities where closely spaced grade crossings restrict operating speeds. Between Biloxi (above) and Gulfport, grade crossings are as close as a tenth-mile apart.

The NO&M Subdivision crosses four other railroads on at-grade railroad-to-railroad crossings (commonly called “diamonds” due to their shape on a map) at New Orleans (Norfolk Southern at NO&NE Tower and New Orleans Public Belt by the Industrial Canal), Gulfport (Kansas City Southern), and Mobile (Canadian National). Track speeds across the diamonds in Gulfport and Mobile are 45 mph. In New Orleans, speeds across both diamonds are restricted to 40 mph for passenger trains on Track 1, 20 mph for passenger trains on Track 2, and 20 mph for freight trains on both tracks. Cross-traffic on the diamonds at Gulfport and Mobile is minimal, occurring approximately two to four times per day on average.

Long, heavy merchandise freight trains make up more than half of the train traffic on the NO&M Subdivision. Three scheduled intermodal trains also operate between Mobile and New Orleans three to six days per week. Train crews based at Mobile operate trains to New Orleans, then bring a train back. The line also sees occasional bulk trains of windmill parts or other commodities operating to and from New Orleans. Once a week, CSX will run a rock train of 65 to 95 cars to serve one or more of the three stone distributors on the line at Theodore, Gautier, and Long Beach. The rock trains will leave a block of 30 or 35 cars at one site, then continue to the next site and leave another block of 30 or 35 cars (if

serving all three sites) before continuing on, or terminate at the second site with 60 or 65 cars. Once all the cars are delivered, the locomotives will operate to a yard, then return to the sites a few days later to pick up the empty rock cars and head back to the quarry. Longer bulk trains with 150 cars of export coal will operate to the Port of Mobile about three to four times per week. In winter, one unit train per day of export grain will typically operate to the Port. More recently, unit pipe trains have been originating at the Port of Mobile destined to receivers in Georgia and Florida.

Six local freight trains, as well as yard jobs at Mobile, serve customers along the route. One local works out of Gentilly Yard in New Orleans and operates as far north as Long Beach; four locals based at Bayou Cassotte yard in Pascagoula switch customers between Gulfport and Saint Elmo and transfer cars to and from Mobile; one local based out of Sibert Yard in Mobile works as far south as Theodore. A Mobile yard job will also work an industrial park off the main line south of the city at Brookley. Industrial parks in Mobile, Pascagoula, and New Orleans are significant generators of local traffic.

While the sidings and drawbridges create operational impediments across the subdivision, the largest persistent delays to trains occur around the two terminal areas of New Orleans and Mobile. In the railroad gateway of New Orleans, operations and track availability at CSX's Gentilly Yard are heavily influenced by the regularity with which cars can be transferred to connecting railroads. Incoming trains at New Orleans commonly wait outside of the terminal until space becomes available in the yard. When that occurs, trains will wait on double-track sections near the yard, or on passing sidings farther away, which then prevents those sidings from being used to meet other trains. Delays also increase the risk of a crew's on-duty time running out before the train has reached the yard.

As CSX train lengths have grown, the time required to reclassify inbound and outbound trains has also increased, which also affects the yard's ability to accept incoming CSX traffic. Outbound trains of 6,000 to 10,000 feet are commonly built at Gentilly Yard. Trains are built from cuts of cars stored on two or more yard tracks, then combined and air-tested on the main track or one of the few receiving and departure tracks. Especially long trains may require the use of a radio-controlled locomotive placed at the rear or in the middle of a train's consist (a practice called distributed power). Building long trains with a distributed power locomotive will require 4 to 6 hours of assembly time.

Photograph 3-6.

Sibert Yard in Mobile is a hub for Gulf Coast rail traffic, but poses significant operational constraints. This view, looking north from the south throat of the yard, shows the main track (left), drill tracks, and hand-throw crossovers used by mainline freights and switch crews.

Congestion around Mobile is also a daily occurrence, and caused by several different factors. The most common are:

- Two drawbridges north of Sibert Yard that open frequently, delaying both yard switching and mainline operations.
- The lack of available space to expand Sibert Yard, which requires merchandise trains with setouts and pickups to stop on the single mainline track while the locomotives enter the yard to work, frequently blocking the siding, the switching leads, and even city grade crossings. Trains typically take 2 to 3 hours to work the yard.
- Crew changes that must be made by all trains passing through the city
- The track configuration at the Alabama State Docks, which requires export coal trains to be broken up and delivered in two cuts, causing the rear cut to remain outside the terminal during delivery, blocking the universal interlocking at Choctaw where the double-track section to the Mobile yard starts
- Canadian National trains that cross the CSX line on an at-grade diamond approximately 2 to 4 times per day
- Terminal Railway Alabama State Docks trains that request authority for the temporary use of the CSX line to for additional track space (head room) when switching long cuts of cars at its yard next door to CSX

Given all of the operating variables encountered by trains between New Orleans and Mobile, as described above, train performance in the corridor will vary significantly by day. CSX calculations indicate that a freight train could operate unimpeded between New Orleans and Mobile in about 4 and a half hours. However, to account for the unpredictable operating variability experienced during each trip, most merchandise freight trains have trip plans that add another 2 and a half to 3 hours to the scheduled running time, for total trip times of 7 or 8 hours across the NO&M Subdivision.

3.1.3. M&M Subdivision

Photograph 3-7.

Chickasawbogue River drawbridge is one of the most significant operational bottlenecks on the M&M Subdivision, owing to its location near the north throat of Sibert Yard in Mobile, its frequent openings, and its single-track track span that limits track capacity approaching the Mobile terminal.

The M&M Subdivision extends 180.2 miles between Mobile and Montgomery. Passenger trains on the proposed Gulf Coast corridor would use only the western segment between Mobile and Flomaton, 58.2 miles, at which point the route to Jacksonville diverges at a wye. (A wye is an arrangement of tracks shaped like a triangle that enables trains to move in three different directions.) Three different freight traffic flows on CSX use the M&M Subdivision at various points:

- New Orleans-Atlanta/Birmingham traffic uses the entire line between Mobile and Montgomery
- New Orleans-Florida traffic uses the line between Mobile and Flomaton
- Florida-Atlanta/Birmingham traffic uses the line between Flomaton and Montgomery

The most heavily used line segment of the M&M Subdivision is the portion between Mobile and Flomaton, which sees an average of 13 through freight trains per day, not including local trains.

Between Mobile and Flomaton, the M&M Subdivision crosses multiple navigable rivers and tributaries of Mobile Bay as it heads inland away from the Gulf of Mexico. The line passes through the manufacturing and recreational center of Atmore before reaching the railroad junction at Flomaton. The line is signaled with Centralized Traffic Control, and also has Positive Train Control installed.

The M&M Subdivision is primarily single track with passing sidings, but has sections of double main track at each end. Near Mobile, a 2.7-mile segment of double main track is in place at a point between two navigable tributaries of the Mobile River. There is also a 2.2-mile section of double track at Flomaton. There are seven passing sidings, of which four are signaled sidings that allow for quicker entries into the siding and more efficient meets. Two of the signaled sidings exceed 10,000 feet in length. Some sidings, however, are used by local freight trains or rock trains for extended periods, which prevents their use for meeting or passing main line through trains. Daytime local train M703 between Mobile and Atmore can occupy the Bay Minette siding for 3 to 6 hours a day while switching customers. Rock trains with cars for an asphalt plant in Bay Minette will leave those cars at Hurricane siding until the plant is able to receive them, rendering the siding unavailable for meeting trains. When export coal and grain traffic volume is heavy, bulk trains destined for the Port of Mobile may be staged at Nokomis siding until space in the terminal is available.

Two northbound merchandise trains have scheduled pickups at Sibert Yard in Mobile. These pickups could add up to 6,000 feet of train length, which would cause the full length of the train departing Mobile to exceed the length of sidings along the M&M Subdivision. On those occasions, meets with opposing trains must be carefully planned to ensure that they occur at sidings where the opposing train is able to fit. Depending on the opposing train's length, such meets may be confined to very specific sidings on the M&M Subdivision, which could delay operations while waiting for the trains to arrive at the prescribed meeting point and pass each other.

The same congestion issues around Mobile terminal that affect operations on the NO&M Subdivision (described in the previous section) similarly affect operations on the M&M Subdivision approaching Mobile. All but one southbound merchandise freight is scheduled to make a setout or pickup at Sibert Yard in Mobile. Trains will often be held on the double track north of Mobile, or sidings even farther away, waiting for their turn to proceed, one at a time, through the Mobile terminal. During these extended waits, a train crew's on-duty time may run out, requiring a new crew to be called to bring the train into Mobile.

The other significant operational impediment on the M&M Subdivision are the five drawbridges in one 13-mile segment of track north of Mobile. Two of these drawbridges, Mobile River and Chickasawbogue Creek, open up to 20 times a day, blocking the line for up to 30 minutes per opening. A third bridge, Three Mile Creek, is located at the northern end of Sibert Yard in Mobile, and contains both the M&M Subdivision's mainline track and the switching lead for the yard. It opens 5 times a day on average, typically for 16 to 20 minutes at a time, blocking both mainline movements on the M&M Subdivision and switching activities in Sibert Yard.

The Flomaton wye is also an operational bottleneck. Only one train at a time can enter or exit the PD Subdivision at the Flomaton wye, whether headed south on the M&M Subdivision to New Orleans or north on the M& Sub to Montgomery. Trains operating between Montgomery and Florida that use the northeast quadrant track experience the biggest delays at Flomaton. Only one northeast quadrant track is available for movements from Florida to Montgomery. Similarly, only one southeast quadrant track is available for movements from Florida to New Orleans, However, trains on the southeast quadrant can pass each other immediately south of the Flomaton wye on 2.2 miles of double main track headed toward New Orleans. There is no equivalent opportunity for trains on the northeast quadrant to pass each other north of the wye. The M&M Sub has a double main track through Flomaton that continues north for 3.7 miles. But trains on the northeast quadrant wye track at Flomaton are limited to using only one of the two main tracks headed north to Montgomery. A crossover exists by the wye that has the potential to allow for the use of either main track headed north, but the crossover is not equipped with powered turnouts, only hand-throw turnouts. Rather than halt operations through Flomaton so a train crew can stop, step off the train, line the hand-thrown turnouts, wait for the entire train to pass, then reline both turnouts and return to the head end of the train, dispatchers plan meets between trains at sidings located farther away from the Flomaton wye. The next siding north of Flomaton where opposing trains destined to and from the PD Subdivision could pass is at Brewton, 9.9 miles away, but that siding has a length of just 5,500 feet. Longer trains would have to be held at Castleberry siding, which is 22 miles north of Flomaton. One northbound freight from Pensacola to Birmingham, Q520, is scheduled to make a pickup at Flomaton, and holds one of the two main tracks at Flomaton when it does, forcing all traffic onto Track 2, which is the main track that connects to the PD Subdivision wye. This restricts mainline movements in any direction through Flomaton.

The majority of trains on the M&M Subdivision are merchandise and intermodal freight trains destined to and from New Orleans. Bulk trains of export coal and grain also operate from northern loading points to the Port of Mobile. Domestic coal trains operate from the North to power plants in Florida, exiting the line at Flomaton to head east. Bulk trains of windmill parts originating in Florida will operate to Memphis (via Montgomery) or New Orleans. Bulk trains of pipe originate at Mobile, destined for Florida or Georgia. Rock trains from quarries in Alabama, Georgia, and the Carolinas will operate south from Montgomery and Flomaton to asphalt plants and stone distributors located in Florida or between Mobile and New Orleans.

Given the operational uncertainties caused by the large number of drawbridges, the Flomaton bottleneck, the lack of siding capacity when locals are working, and the potentially lengthy waits for trains to enter Mobile terminal, most merchandise freight trains are allotted travel times of 3 to 4 hours to cover the 58 miles between Mobile and Flomaton.

3.1.4. PD Subdivision

The PD Subdivision extends 37.8 miles from Flomaton to South Pensacola in the verdant Escambia River valley. (The initials PD refer to the railroad line's former name, Pensacola District.) The line is not signaled. Trains receive authority to operate over it via track warrant authority issued over the radio by a dispatcher in Atlanta. The PD Subdivision handles two distinct traffic flows for CSX: Jacksonville-New Orleans and Jacksonville-Montgomery. Flomaton, at the western end of the subdivision, is the junction where the traffic flows part ways, headed either north to Montgomery or south to New Orleans.

The line is single track, with three passing sidings, all of them controlled sidings. Only one of the three sidings, Molino, is more than 9,000 feet in length, although it is bisected by two grade crossings at its south end. The other two sidings are shorter (5,830 feet and 3,000 feet) than most of the train lengths that use the line, and also have customer industrial tracks connected to them that are worked by local M733 between Pensacola and Flomaton. Molino siding, the longest one, has self-restoring switches, while the other two sidings, Gonzales and Cantonment, have spring switches.

Daily daytime local train M733 regularly ties up the mainline and sidings at Gonzales and Cantonment to switch customers, which can delay through freight movements. On days with heavy through traffic, the local may not have time to complete all of its work.

There is limited storage space for freight trains at Pensacola, so the yard typically has to send a train out before it can bring one in. If the paths through Pensacola for mainline trains are blocked, trains on the PD Subdivision will have to hold at the Molino siding, 16 miles away, until track space becomes available. Similarly, Molino siding may be used as a staging point for trains waiting to pass through the Flomaton wye, 20 miles away. The track arrangement at the wye only allows one train at a time to entire or exit the PD Subdivision, and Molino is the closest siding on the line to the wye.

Given the lack of long sidings on the PD Subdivision, if two trains of more than 9,000 feet moving in opposite directions need to use the line, one must hold on an adjacent subdivision and wait for the other train to arrive. Long trains have become more common on the PD Subdivision in recent years. Coal trains, which operate 2 to 3 times per day, are typically 170 cars long, exceeding 9,300 feet in length. Merchandise freights between New Orleans and Waycross will stretch from 6,000 to 14,000 feet on the PD Subdivision. Freight trains typically take about 2 hours to travel between Pensacola and Flomaton.

Traffic volume on the PD Subdivision includes one pair of New Orleans-Jacksonville intermodal trains, five merchandise freight trains, one local train, and two to four bulk trains per day, on average. Bulk trains of coal operate to Florida power plants, and bulks trains of rock operate to asphalt plants and stone distributors throughout Florida, including a plant at Cantonment on the PD Subdivision, where rock trains destined to Pensacola and DeFuniak Springs will make a set-out. Three days per week a unit train of windmill parts departs Pensacola, bound for interchange at Memphis or New Orleans.

3.1.5. P&A Subdivision

The 165.7-mile P&A Subdivision crosses the Florida panhandle, linking the cities of Pensacola and Chattahoochee, and passing through the cities of Crestview, DeFuniak Springs, Chipley, and Cottondale. (P&A is an abbreviation of the line's former name, Pensacola & Atlantic.) The line is not signaled. Trains receive authority to move through track warrants issued over the radio by the train dispatcher. Each end of the P&A Subdivision is located at a CSX crew change point and terminal where train operations are governed by Yard Limits. These limits restrict movements to a speed that will enable a train to stop within one-half the range of vision and no higher than 20 mph. In Pensacola, the Yard Limits extend for 6.0 miles, while in Chattahoochee the Yard Limits extend for 2.7 miles through Boykin Yard, then continue for another 3.9 miles on the adjacent Tallahassee Subdivision.

The P&A Subdivision is a single-track line with passing sidings. All sidings are controlled sidings, with half of them spaced at distances of 30 to 50 miles apart. The average spacing between sidings on the P&A Subdivision is 33.1 miles. The travel times for freight trains between sidings are approximately 90 minutes, resulting in lengthy waits for train meets. Of the four controlled sidings used for meets on the 166-mile P&A Subdivision, two exceed 10,000 feet in length. All sidings are equipped with self-restoring power-operated switches at each end. The yards at each end of the subdivision are used to switch and stage cars for local customers, but are not typically used to meet or pass through freight trains, with the exception of short unit rock trains.

A civil ordinance restricts train speeds to 25 mph for 1.2 miles through the city of Chipley. Trains are also limited to 25 mph across the automatic at-grade diamond with the Bay Line Railroad at Cottondale, and to 25 mph across the Blackwater River drawbridge in Milton. (A second drawbridge, across the Apalachicola River outside Chattahoochee, is within Yard Limits territory and is continuously locked and lined for rail movements.)

Goulding Yard in Pensacola is a crew change point, and originates a daily round-trip merchandise freight train to Birmingham. Pensacola also generates significant local traffic. A yard job serves the Port of Pensacola and weekday nighttime local M734 switches customers between Pensacola and Milton, 25 miles north. Afternoon local M735 operates from Pensacola to Chattahoochee three days per week, returning the following day as local M736.

There is limited storage space for freight trains at Pensacola, so Goulding Yard typically has to send a train out before it can receive one in. Merchandise trains with setouts and pickups at Goulding Yard either work the yard off the main track or Receiving/Departure track 1. No other yard tracks are long enough to hold a full train. If the main track and R/D track are blocked, a southbound train will have to hold at the first siding north of Pensacola, 15 miles away in Avalon, until track space becomes available. On occasion, a New Orleans-bound merchandise freight may have to leave cars at Pensacola or be staged there, in order to space the arrivals of long trains at New Orleans to no less than every 6 to 8 hours.

Chattahoochee Yard has similar space constraints. If the main track through the terminal will be occupied for an extended period, northbound train crews on the P&A Subdivision may tie down their train and go off duty on the main track at Marianna, about 20 miles away. Once track space opens up, a yard crew from Chattahoochee will taxi out to the train and bring it in. To compensate for the long distances between sidings, southbound trains will be staged at Chattahoochee, then sent out in succession for planned meets with an opposing train at Chipley siding, 42 miles away.

Approximately half the trains on the P&A Subdivision are unscheduled bulk trains, primarily carrying either coal or rock. Coal trains operate two to three times per day. The line also sees three merchandise freight trains between New Orleans and Waycross and one pair of New Orleans-Jacksonville intermodal trains. Given the distances between sidings, trains on the P&A Subdivision are often fleeted, and follow each other in succession northbound or southbound across the subdivision.

There are five asphalt plants and stone distributors on the P&A Subdivision that receive carloads of rock loaded at quarries throughout the Southeast. The plants are located at Pensacola, Avalon, Galliver, DeFuniak Springs, and Marianna. Unit trains from the quarry operate to the P&A Subdivision,

then drop cuts of cars along the way at various plants according to the train's trip plan, with the light power tying up at Pensacola or Chattahoochee. A few days later, the light power will reverse and pick up empty cars from the plants until a full train is built for the destination quarry. Rock trains will work off the siding or the mainline track, depending on the location. Storage sidings at Avalon, Galliver, and DeFuniak Springs can hold 20 to 30 rock cars. Rock trains for Marianna must work off the main track.

An unimpeded trip between Pensacola and Chattahoochee would take about 5 and a half hours, but southbound merchandise freight trains are allotted 8 hours for the trip to account for the extended wait times at the limited number of sidings.

3.1.6. Tallahassee Subdivision

Photograph 3-8.

West Baldwin siding is located at the eastern end of the Tallahassee Subdivision.

The Tallahassee Subdivision extends for 189.5 miles from Chattahoochee in the Florida Panhandle to Baldwin in suburban Jacksonville, serving the intermediate cities of Tallahassee, Greenville, Madison, Live Oak, and Lake City. The eastern 150 miles of the line between Baldwin and Tallahassee are signaled, with Centralized Traffic Control installed. The CTC signaling ends at GF&A Connection west of downtown Tallahassee, where CSX's Bainbridge Subdivision diverges to Bainbridge, Georgia. Between Tallahassee and Chattahoochee, the Tallahassee Subdivision is unsignaled. Trains operate under Track Warrant Control between the GF&A Connection and the North Chattahoochee Yard Limits, approximately 36 miles, then operate under 4 miles of Yard Limits through the Chattahoochee terminal area.

The line crosses two railroads on at-grade diamonds. The NS diamond at Lake City is protected with an electric locked gate; speed across the diamond is 40 mph. At Greenville, the Georgia & Florida Railway crosses at an automatic diamond; trains are restricted to 20 mph across it. A city ordinance in Tallahassee restricts trains to 35 mph for 3.1 miles through Florida's capital city.

The Tallahassee Subdivision is single track with passing sidings. Only one siding, Douglas City with a length of 7,920 feet, is available to meet trains in the 40-mile unsignaled section between Chattahoochee and Tallahassee. In the 150-mile signaled section between Tallahassee and Baldwin, there are 13 sidings, four of them signaled and with lengths of more than 8,000 feet. One signaled siding exceeds 10,000 feet. Among the other 9 controlled sidings, five have a length of 8,000 feet or more; the other four are between 3,000 and 5,000 feet and thus have limited capabilities for meet/pass events. Despite lengths of 8,000 feet or more, some of the longer sidings on the Tallahassee Subdivision are bisected by highway grade crossings, which limits the clear length that can be used to hold trains waiting for meets. For example, the only siding on the line of more than 10,000 feet in length, Madison, is bisected by two grade crossings near its midway point. The yards in Chattahoochee and Tallahassee are not long enough to be used for meets between through trains, and have limited track space.

Maximum speed on the Tallahassee Subdivision for both freight and passenger trains is 50 mph, although passenger train speeds had been 79 mph when regular Amtrak passenger rail service was being operated.

The preponderance of traffic on the Tallahassee Subdivision is made up of three merchandise freight trains between New Orleans and Waycross, two to three coal trains a day headed to and from Florida power plants, unit rock trains destined for area distributors, and one pair of scheduled New Orleans-Jacksonville intermodal trains. In addition, four local freight trains work different portions of the line. Nighttime locals based at Tallahassee and Lake City work Monday-Friday, switching customers between Chattahoochee and Lake City. A daytime local at Baldwin works the line between Baldwin and Lake City on weekdays. Fertilizer plants, grain coops, and other local freight customers line the route. Locals work off the main line and sidings in order to switch customers. The sidings in Lake City and Sanderson, in particular, will be occupied by daytime local train M744 out of Baldwin for extended periods. Midway, about 10 miles south of Tallahassee, has an asphalt plant that is the first set-out location for unit rock trains from Georgia headed toward Chattahoochee and customers on the P&A Subdivision. Tallahassee Yard is used for local work only. However, merchandise freight trains with setouts and pickups there can use a 2.2-mile running track to work the yard, keeping the main track clear.

With no stops, the typical travel time for a freight train between Chattahoochee and Baldwin is approximately 5 hours, although merchandise freight trains are typically allotted 8 or 9 hours, to account for meets and a set-out at Tallahassee.

3.1.7. Jacksonville Terminal Subdivision

Photograph 3-9.

A CSX light engine moves threads through the Beaver Street interlocking on its way to Moncrief Yard.

The Jacksonville Terminal Subdivision controls most of the mainline trackage in and around the Jacksonville metropolitan area. In broad terms, the terminal region is shaped like a triangle. Trains from northern originations (including CSX's I-95 Corridor from New York and its Southeastern Corridor from Chicago) headed to Florida destinations enter the state on CSX's double-track Nahunta Subdivision, the former Atlantic Coast Line route now nicknamed the A Line. About 20 miles north of Jacksonville, the main lines split at a junction called Callahan, which forms the top of the triangle. Trains headed south to Jacksonville and Orlando continue operating south on the Nahunta Subdivision, which forms the right-hand side of the triangle; this line officially becomes part of the Jacksonville Terminal Subdivision at the Dinsmore interlocking, about 6 miles north of Jacksonville. Trains headed south to Ocala and Tampa diverge at Callahan onto the Callahan Subdivision, which angles southwest toward the CSX yard at Baldwin, forming the left-hand side of the triangle. Running east-west and forming the base of the triangle is the main line from New Orleans, which crosses the Callahan Subdivision at-grade in Baldwin and continues east to Jacksonville, where it joins the A Line at the Beaver Street interlocking. The east-west line between Baldwin and Jacksonville is also part of the Jacksonville Terminal Subdivision, and known as the SP Line. All of the lines within the Jacksonville Terminal Subdivision are signaled with Centralized Traffic Control, and soon will have Positive Train Control as well.

The SP Line is 18 miles long from its at-grade diamond crossing with the Callahan Subdivision at Baldwin Tower to its junction with the A Line at Beaver Street. The diamond at Baldwin has connection

tracks in all four quadrants, enabling trains to operate in any direction. Eastbound merchandise freight trains from New Orleans will diverge northward at Baldwin onto the Callahan Sub, en route to CSX's classification yard at Waycross, Georgia; merchandise trains also change crews north of Baldwin on the double-track Callahan Sub. Eastbound loaded coal trains from Flomaton will diverge southward at Baldwin to enter a staging and inspection yard located just south of the diamond. The eastbound intermodal train from New Orleans will continue straight east across the diamond on its way to the Duval intermodal ramp in Jacksonville. Transfer jobs and bulk trains headed north from Baldwin Yard, or through freights headed south on the Callahan Sub, may turn eastward onto the SP Line at Baldwin and head toward the yards in Jacksonville or the A Line. Train volumes across the diamonds at Baldwin Tower or on one of the quadrant tracks connecting the subdivisions average about 1 to 2 trains per hour.

Photograph 3-10.

The diamond at Baldwin is a crossroads for CSX routes from four different compass points.

From Baldwin, the SP Line continues east as an alternating single- and double-track main line. At Duval Connection, 13 miles east of Baldwin, a wye track off the SP Line provides access for eastbound and westbound trains to the Duval intermodal ramp. About 5 miles east of the Duval Connection, the SP Line ends at the Beaver Street interlocking, where tracks diverge southward onto the A Line or northward via the Honeymoon Wye track onto the A Line. Traffic on the SP Line averages about 11 mainline trains per day, plus many more local trains and transfer jobs.

The A Line is CSX’s primary Jacksonville entryway for trains from points in the Northeast and Midwestern U.S. At Dinsmore, where the A Line officially becomes part of the Jacksonville Terminal Sub, a wye track provides access to a branch line for trains destined to and from the Duval intermodal

ramp. Four miles south of Dinsmore is the Amtrak Jacksonville station. The facility has two station tracks separated by an island platform. The station tracks diverge from, then rejoin, the CSX main line, allowing passenger operations at the station to take place without disrupting freight traffic. Just south of the Amtrak station is the Grand Junction wye, which provides access to the Kingsland Subdivision, a heavily used local branch that serves two power plants, multiple local freight customers, and the Port of Jacksonville. South of the Grand Junction wye, a Norfolk Southern branch crosses the A Line on a diamond that is remotely controlled by the CSX dispatcher. CSX's Moncrief Yard begins just south of the NS crossing. Moncrief contains CSX's primary Jacksonville-area intermodal terminal, merchandise yard, and locomotive servicing shop. Only one mainline track bypasses the yard, on its east side. South of Moncrief Yard is the Beaver Street interlocking, where lead tracks from Moncrief Yard rejoin the A Line, the SP Line from Baldwin joins the A Line on a wye, the NS main line feeds into CSX, and the double-track connection to Florida East Coast Railway diverges (the FEC connection is used by both CSX and NS). The A Line continues south of Beaver Street for another 5.4 miles to St. Johns interlocking, where the double track ends and the line continues south toward Orlando as the single-track Sanford Subdivision.

Traffic on the A Line can average 28 through trains per day, including three daily round-trip Amtrak passenger trains. Additional traffic from local trains, transfers, and NS trains adds even more to the A Line's daily volume. Daytime is the premier freight time in Jacksonville, especially for intermodal traffic. South of Beaver Street, traffic on the A Line falls to about 10 daily trains, which includes 6 scheduled passenger trains, one merchandise freight train-pair, and 1-2 daily bulk trains of coal or rock destined to A Line customers south of Jacksonville.

The Beaver Street interlocking is the busiest rail junction in the city, and sees 50 to 70 train movements per day, on average. The interlocking is used by mainline freight trains on both the SP Line and A Line, including high-priority passenger trains operating north-south on the A Line through Jacksonville and intermodal trains operating between Moncrief Yard and Baldwin Tower on the SP Line. In addition, transfer jobs, intermodal trains, and light engine moves shuttling between Duval Yard and Moncrief Yard will use the Beaver Street interlocking; so will yard jobs at Moncrief that need some extra track space (head room) to switch cars, CSX transfers headed to and from the Florida East Coast, and Norfolk Southern trains also headed to and from the FEC. Because of the interlocking's track configuration, any train entering or existing the SP Line on the Honeymoon wye will block all north-south moves at Beaver Street, and potentially disrupt switching at the south end of Moncrief Yard. Track speed on the Honeymoon Wye is 10 mph for freight trains, meaning a long train moving through Beaver Street could block the interlocking for 15 minutes or more.

North of Moncrief Yard, the A Line's track configuration only allows access from one of the two main tracks to the Amtrak station and to the Grand Junction wye. This hampers operating flexibility and line fluidity in the busy terminal. The wye connection at Grand Junction forms the southern end of the single-track Kingsland Subdivision. Yard limits on the Kingsland Sub begin immediately beyond the wye, and continue for nearly 2 miles. This section of the Kingsland Sub is frequently occupied by a Grand Junction yard job switching customers.

Photograph 3-11.

The Amtrak station in Jacksonville has two station tracks. In addition to passenger boardings, the station has facilities and infrastructure for checked baggage, crew changes, and locomotive refueling.

Four Amtrak passenger trains (two round-trip pairs) serve the Jacksonville station daily en route between New York and Miami. (The third Amtrak round-trip train, the Auto Train, does not stop in Jacksonville.) Amtrak trains at the Jacksonville station have a dwell time of 20 to 25 minutes to allow for passenger boarding and disembarking, baggage handling, a crew change, and refueling of the locomotives. Although it is rare for two passenger trains to be in the station at once, when both station tracks are occupied trains could potentially be delayed, as crews may need to wait for one train to leave before refueling the other, in order to prevent fuel lines from crossing an occupied track.

3.1.8. Sanford Subdivision

The Sanford Subdivision extends 101.4 miles from the St. Johns interlocking in Jacksonville south to DeLand, passing through the city of Palatka. At DeLand, the line continues south to Orlando and Miami, however, track ownership changes to the Florida Department of Transportation, with operations controlled by the SunRail commuter operation based in Orlando. The Sanford Subdivision is signaled with Centralized Traffic Control, and will ultimately have Positive Train Control installed as well. The line is single track with passing sidings. There are 9 sidings between St. Johns and Palatka, all of them signaled sidings and all more than 10,000 feet in length. The sidings are sized to enable the operation of 170-car coal trains between Jacksonville and the Seminole Electric power plant in Bostwick, north of Palatka.

The Sanford Subdivision is predominantly a passenger railroad. The line sees six scheduled Amtrak trains per day. Freight operations are confined primarily to a nightly round-trip merchandise freight train between Orlando and Waycross, multiple coal trains per week for Bostwick, rock trains to and from an asphalt plant near Orlando, and an occasional northbound empty autorack train. A daytime local works the north end of the line from its base at Pecan Yard in Palatka.

Coal trains to the Bostwick power plant operate several times a week. CSX combines two deliveries into one 170-car train operating from the Appalachian coalfields south through Flomaton, Pensacola, and Baldwin. After refueling at Baldwin, the train continues east and south to Solite siding on the Sanford Subdivision, where it is cut in two, because the plant is only equipped to receive 85-car deliveries. The rear cut remains at Solite until the plant is ready to unload it. The empty cars are pulled from the plant to Baldwin Yard, where they are recombined into one train and inspected before returning north to the coalfields to be reloaded.

South of DeLand, CSX is restricted to a nighttime operating window between 10:00 p.m. and 5:00 a.m. on Central Florida Rail Commission's commuter trackage. Local freights are permitted to operate during daylight. Coal trains to and from Bostwick can also operate in daylight, since they do not require use of the commuter rail commission's trackage.

There are three drawbridges on the Sanford Subdivision, which have the potential to cause train delays. Two of the bridges are staffed continuously, while the third bridge only has a bridge tender on duty for one daytime 8-hour shift.

3.2. Train Types and Operating Plans

Photograph 3-12.

A long merchandise freight holds the siding at Saint Elmo for a meet on the NO&M Subdivision.

3.2.1. Through Freight Trains

The types of through freight trains operated by CSX between New Orleans and DeLand can be summarized in four classes, in order of dispatching priority:

Intermodal Trains: Intermodal trains typically carry time-sensitive cargo packed into marine shipping containers or truck semi-trailers. These trains operate on expedited schedules to compete with trucks, and as such are given the highest dispatching priority among freight trains. In the Gulf Coast corridor, CSX operates one pair of intermodal trains between New Orleans and Jacksonville, and one southbound intermodal train from Atlanta to New Orleans. CSX has intermodal terminals in New Orleans, Mobile, and Jacksonville. The city of Jacksonville is a major intermodal hub for CSX, serving trains destined to and from locations throughout the Northeastern U.S. and the Midwestern U.S. CSX also interchanges intermodal traffic with the Florida East Coast Railway at Jacksonville.

Automotive Trains: Automotive trains carry finished vehicles (new cars and trucks) moving from assembly plants to dealers and distributors, or auto parts destined for assembly plants. The cargo hauled by automotive trains is high-value and often time-sensitive, as trains may be scheduled for specific delivery times at auto plants, and thus also given a high dispatching priority. Automotive traffic is minimal on most lines along the Gulf Coast, however, the Jacksonville Terminal area contains facilities where automotive trains from the Northeast and Midwest operate to and from.

Merchandise Trains: Merchandise trains carry a mix of goods and commodities in individual carloads for multiple shippers between multiple origin and destination pairs. Merchandise trains carry a variety of commodities, including food products, lumber, metals, chemicals, auto parts, paper products, waste, and scrap using different car types, such as boxcars, gondolas, tank cars, covered hopper cars, and other specialized rail equipment. Most merchandise traffic moves door-to-door, although customers without direct rail access or who need less-than-carload quantities use transload facilities, where products can be transferred from railcars to trucks for further shipment. Merchandise trains are usually classified (i.e., sorted) at originating and terminating yards and may perform pickups and setouts at intermediate yards en route.

CSX operates multiple daily merchandise trains between New Orleans and major yards in the Southeast located in Atlanta and Waycross, Georgia, Birmingham, Alabama, and Hamlet, North Carolina. All but one New Orleans-bound merchandise train make will make pickups or setouts at Sibert Yard in Mobile, Alabama, and two trains from New Orleans (to Waycross and Birmingham) also pickup cars at Mobile. Other merchandise freights in the corridor operate between Pensacola and Birmingham, and between Waycross and Orlando.

Merchandise freight trains operating between New Orleans and Waycross along the proposed Gulf Coast passenger corridor make setouts and/or pickups at the following intermediate locations: Mobile, Pensacola, and Tallahassee.

Bulk Freight Trains: Bulk freight trains, often called unit trains, carry one single commodity and generally originate, operate, and terminate as intact trainsets between one shipper and one receiver. Bulk trains do not require intermediate switching en route. Bulk freight trains do not usually operate on set schedules, but rather are dispatched at times where they do not interfere with the operation of intermodal freight, scheduled merchandise freight, or passenger and commuter trains, and in a timely manner to meet customer requirements. Bulk freight trains operating in the Gulf Coast corridor carry coal, grain, rock, and other commodities.

Unit coal trains will enter the corridor at Flomaton and operate west to the port of Mobile or eastward to power plants in Florida. Unit grain trains also operate between Flomaton and the port of Mobile. Pensacola will originate unit trains of windmill parts bound for interchange with Western railroads at either New Orleans or Memphis (served via Flomaton and Montgomery). Loaded stone trains operate from quarries throughout the Southeast to stone yards and asphalt plants located along the Gulf Coast. The stone trains are made up of cars bound for two or three different destinations in the corridor. Trains will arrive at the first location, drop off a block of 30 to 60 cars, then continue to the next receiving point, and so on until all deliveries are made. Empty trains will gather blocks of empty cars from multiple shippers along the line until a complete train is assembled, then operate directly to the quarry.

Train crews are limited by federal law to a maximum 12 hours of on-duty time. Thus, at various locations along the Gulf Coast, trains are scheduled to stop for a crew change. The following crew districts are in place for freight trains along the proposed Gulf Coast passenger corridor:

- New Orleans-Mobile
- Mobile-Montgomery
- Mobile-Chattahoochee

- Chattahoochee-Baldwin or Jacksonville
- Baldwin or Jacksonville-Orlando
- Baldwin-Waycross

Table 3-2 provides average characteristics for the different types of through trains operating along the Gulf Coast in spring 2016. It is important to note that the through trains in this corridor have multiple scheduled work events at different locations, during which they will drop or add cars. As a result, a train's length, tonnage, and horsepower-per-ton ratio will change several times over the course of a trip. The numbers in Table 3-2 are averages calculated over a train's entire journey, but are not weighted for the miles that a train will operate at a specific length or tonnage, which may lead to an underrepresentation of certain train types. As a result, standard deviations are also included for certain common train types.

Table 3-2. Average Characteristics of CSX Freight Trains Operating in the Gulf Coast

Train Type	Average Length (feet)	Length Deviation	Average Tonnage (tons)	Tonnage Deviation	Average Locomotives	HP/Ton
Passenger	1,894		1,641		2.0	2.9
Intermodal	6,203	2,300	4,129	1,600	2.4	1.8
Automotive	5,547	2,600	4,414	2,800	2.2	1.4
Merchandise	7,106	2,800	8,337	4,100	2.8	1.0
Bulk (coal)	6,819		10,519		3.0	0.8
Bulk (rock)	3,435		7,140		2.0	0.9
Bulk (grain)	3,687		5,518		2.1	1.1
Bulk (other)	4,732		6,273		2.3	1.1
Local	1,318		1,657		1.4	1.9

Table 3-3 details the average number of trains per day operated in the Gulf Coast corridor in spring of 2016, and the projected growth in freight train volume by 2040.

Table 3-3. Average Trains per Day in the Gulf Coast

Subdivision	Segment	Existing Through Trains (2016)	Future Through Trains (2040 est.)	Existing Local Trains (2016)
NO&M	New Orleans-Mobile	11	17	6
M&M	Mobile-Flomaton	13	21	1
M&M	Flomaton-Montgomery	13	19	3
PD	Flomaton-Pensacola	8	13	1
P&A	Pensacola-Chattahoochee	7	10	3
Tallahassee	Chattahoochee-Baldwin	7	10	4
Jacksonville Terminal	Baldwin-Jacksonville	11	21	0

Subdivision	Segment	Existing Through Trains (2016)	Future Through Trains (2040 est.)	Existing Local Trains (2016)
Sanford	Jacksonville-Bostwick	10	11	1
Sanford	Bostwick-DeLand	8	9	0

3.2.2. Local Freight Trains

Local freight trains pick up and drop off cars at businesses, industries, bulk transfer facilities, industrial parks, and other locations requiring rail service. Local trains are based out of rail yards, where the cars for local customers are dropped off and picked up by long-haul merchandise freight trains. Local freights have scheduled on-duty times, although the work they do and the locations they serve may vary by day, depending on customer needs and requirements.. Local trains generally have the lowest dispatching priority, except at times when the train crew's hours available to work (hours of service) may be close to running out, in which case dispatchers will expedite the train's return to its home terminal. Depending on the track space and configuration of a rail customer's spur, a local freight may occupy a main track while switching a customer, especially if the train crew has to leave cars on the main track while switching because of a lack of track capacity on the spur. Most local trains in the Gulf Coast region work 5 or 6 days per week.

In the Gulf Coast, CSXT bases local freight trains out of the following locations:

- New Orleans, LA: 1
- Pascagoula, MS: 4
- Mobile, AL: 2
- Flomaton, AL: 1
- Pensacola, FL: 3
- Chattahoochee: 1
- Tallahassee, FL: 2
- Lake City, FL: 1
- Baldwin, FL: 1
- Palatka, FL: 1

3.2.3. Terminals

CSX operates three major terminals in the Gulf Coast region, at New Orleans, Mobile, and Jacksonville.

New Orleans operations are concentrated at Gentilly Yard on the city's east side. New Orleans is a railroad gateway, where CSX interchanges with six different railroads. Gentilly Yard's primary function is to break apart incoming CSX merchandise and intermodal trains and build one or more trains per day for each connecting railroad, and also build outbound CSX trains comprised of cars received from its connections. Gentilly has an intermodal terminal that handles local business, although most intermodal traffic is interchanged with Union Pacific. Gentilly Yard builds four daily merchandise freight trains and

one intermodal train destined for CSX terminals, and receives seven trains from CSX terminals. The yard also builds four daily trains and two transfers for connecting railroads, and receives a similar number of trains from its connections. The yard also builds one local train that operates six days per week switching customers on the NO&M Subdivision.

In Mobile, Sibert Yard handles CSX's merchandise and intermodal operations for the entire region, while the adjacent Port of Mobile receives unit bulk trains. Trains of export coal operate year-round 3-4 times per week to the McDuffie Terminals coal dock at the Port; unit trains of export grain operate seasonally to the Port. CSX's Sibert Yard classifies merchandise traffic for local rail shippers throughout the Gulf Coast in Alabama and Mississippi. Local freight trains shuttle cars to and from Sibert Yard, where they are assembled into blocks of cars that are picked up by merchandise freight trains headed to New Orleans for interchange or to other CSX terminals for further delivery. Two daily northbound merchandise trains and five southbound merchandise trains operating three to six days per week set-out and/or pick up cars at Sibert Yard. The yard also has an intermodal facility that is served by one New Orleans-bound intermodal train three days per week. Sibert Yard builds two daily local trains and one twice-weekly local.

Jacksonville is a hub for CSX railroad operations in Florida. Lines from the Northeastern U.S., Midwest U.S., Gulf Coast, and Central and South Florida converge at Jacksonville, making it a prime location in the CSX network to reclassify traffic, change crews, perform 1,000-mile inspections, and service locomotives. These tasks are divided among multiple yards located throughout the terminal area. Merchandise traffic is switched at Moncrief Yard and Baldwin Yard; automotive traffic is handled at the Lane auto ramp; bulk trains of coal, rock, and other commodities are refueled, inspected, and shortened or lengthened to meet customer requirements at Baldwin Yard; local freight is transloaded to and from trucks at the West Jacksonville Transflo facility; and intermodal traffic is reclassified or loaded and unloaded at two area terminals, Moncrief Yard and Duval Yard. CSX also runs transfer freights to and from Florida East Coast several times a day.

3.2.4. Passenger Rail Service in the Corridor

One segment of the proposed Gulf Coast passenger corridor already sees regularly scheduled Amtrak passenger service: the line segment between Jacksonville and DeLand. Three daily Amtrak round-trip passenger trains use this line segment, which includes the Jacksonville Terminal Subdivision A Line and the Sanford Subdivision. The Silver Meteor and Silver Star, which operate between New York and Miami, each make scheduled station stops in the corridor at Jacksonville and Palatka. The third Amtrak train, the Auto Train, makes a daily round trip between Lorton, Virginia, and Sanford, Florida, but does not make any scheduled station stops in the corridor. Passenger trains operate on published schedules, often at higher speeds than freight trains, and are dispatched at a higher priority than freight trains.

At the southern limit of the corridor, in DeLand, track ownership and track dispatching changes from CSX to the Florida Department of Transportation. The transportation department owns the portion of the proposed Gulf Coast corridor between DeLand and Orlando, and operations on it are controlled by the SunRail commuter service. Commuter trains currently operate between DeBary (near Sanford) and Sand Lake Road in Pine Castle, south of Orlando, although construction is currently underway on

Phase 2, which will expand the commuter service north to DeLand and south to Poinciana by 2018. SunRail commuter trains operate on weekdays only, on 30-minute headways during the morning and evening peak commuting times and approximately every two hours during midday and late evening.

3.3. Operational Challenges

3.3.1. Drawbridges

Photograph 3-13.

This drawbridge over the Pascagoula River is one of seven movable bridges on the CSX between New Orleans and Mobile. Passenger traveling trains between New Orleans and DeLand will cross 17 drawbridges.

The large number of drawbridges on CSX's rail line between New Orleans and Orlando presents arguably the biggest impediment to achieving consistent operational reliability and on-time performance in the proposed Gulf Coast passenger corridor. There are seven drawbridges in the 144 miles between New Orleans and Mobile, and another five drawbridges just east of Mobile in one 13-mile segment of track. Between Pensacola and Chattahoochee, there are two drawbridges, one of which is permanently lined for rail movement. There are three drawbridges in the 55-mile segment between Jacksonville and Palatka. In all cases, marine traffic has the right-of-way, and the bridges must open to allow vessels to pass through. None of the bridges have scheduled opening or closing times. Bridge openings occur at random, and on the busiest waterways the bridges may open once or twice an hour. CSX operating rules state that a train must approach each drawbridge prepared to stop until a signal is observed indicating that the bridge is lined and locked for train movement across it. The U.S. Coast Guard will

levy a steep fine on railroads that block a navigable waterway with a lowered drawbridge for what is determined to be an “unreasonable” amount of time.

The nature of drawbridges affects railroad operations in a number of ways, the most common of which are:

- Because the bridges open on demand at any time, there are no operating windows that trains can be scheduled in to ensure uninterrupted movement; even meets at sidings between opposing trains become difficult for dispatchers to plan too far into the future
- Many bridge openings have a minimum open/close cycle time of 20 to 30 minutes, which may cause more than one train to be delayed approaching the bridge, and may prolong the waits of other trains at nearby sidings where meets are planned to occur
- The track speed across six of the seven drawbridges between New Orleans and Mobile is restricted to 30 mph for passenger trains and 25 mph for freights, less than half the maximum authorized speed of the route (79 mph for passenger trans and 60 mph for freight trains), which prolongs travel times and impacts track capacity. The seventh bridge, the New Orleans Industrial Canal, has a passenger speed of 40 mph on one track and 20 mph on the other track.
- The drawbridges themselves are mechanical machines with a myriad of moving parts operating in a harsh, salt-water marine environment, with sensitive, electrical signal and detection systems providing train protection. On occasion, the signals authorizing movement across the bridge may display a red (stop) indication, either falsely, even though the bridge is safely lined and locked for rail movement, or correctly, if a bridge reseating or other condition prevents the rails on either side of the movable portion from properly lining up. Drawbridges also face the risk of becoming stuck, either in the raised or lowered position. All of these conditions will delay trains, for minutes or even hours, while Bridge Department or Signal Department maintenance employees are summoned to the bridge's location - sometimes remote locations far from local roads - and repairs are made.
- The drawbridges on the Gulf Coast route are staffed by on-site bridge tenders, most of whom work 8-hour shifts. (At a handful of drawbridges, shifts are 12 hours.) During shift changes, bridge tenders must use an on-track hi-rail vehicle to travel between the bridge and a designated employee parking area on the mainland. This requires calling the train dispatcher to request authority to occupy the main line in order to make the round trip between the parking lot and the bridge. The average time for this type of round trip is 1 hour, and occurs two to three times per day at each bridge during shift change.

Table 3-4 provides information on the drawbridges in the proposed Gulf Coast corridor. As can be seen by the average open/close cycle times shown below, a train traveling between New Orleans and Mobile could experience a cumulative delay of more than 90 minutes from drawbridge openings, in a situation where every bridge on the line opened for boats as the train was approaching. A train between New Orleans and Pensacola could be delayed by up to 3 hours by drawbridge openings.

Table 3-4. Drawbridges along the Proposed Gulf Coast Passenger Corridor

Drawbridge	Milepost	Bridge Tender on Duty	Average Daily Trains (2016)	Average Daily Bridge Openings	Minimum open/close cycle (minutes)	Bridge Type
NO&M Subdivision						
Industrial Canal	000 801.4	Continuous	12	10		Bascule
Chef Menteur	000 787.2	Continuous	12	15	10	Swing
Rigolets	000 775.4	Continuous	12	15	24	Swing
Pearl River	000 768.9	06:00-22:00	12	2	20	Swing
Bay St. Louis	000 752.5	Continuous	12	15	20	Swing
Biloxi Bay	000 724.3	Continuous	12	25	11	Swing
Pascagoula River	000 706.8	Continuous	12	15	12	Bascule
M&M Subdivision						
Three Mile Creek	000 664.2	Continuous	14+	5	16	Swing
Chickasawbogue River	000 663.2	Continuous	14	20	16	Swing
Bayou Sara River	000 658.3	11:00-19:00	14	20	20	Swing
Mobile River	000 653.5	Continuous	14	20	7 (full), 20 (aux. power)	Lift
Tensaw River	000 651.5	10:00-18:00	14	2	30	Swing
P&A Subdivision						
Blackwater River	00K 670.5	05:00-21:00	9	4	11-20	Swing
Apalachicola River	00K 809.1	Lined and locked for rail movement	8	0	0	Swing
Sanford Subdivision						
McGirts Creek	A 649.1	Continuous	10	6		Bascule
Rice Creek	A 694.1	Continuous	8	1	10	Swing
Buffalo Bluff	A 703.4	Continuous	8	7	5	Bascule

Note:
Additional train movements made on the Sibert Yard Switching Lead not included in Daily Train Volume

The bridges at Tensaw River, Bayou Sara, and Pearl River see primarily pleasure boats, and open mainly on weekends. Other drawbridges, such as Chef Menteur, Mobile River, and Chickasawbogue Creek, cross waterways with heavy volumes of commercial marine traffic. Some of the drawbridges on the NO&M Subdivision, including those at Pascagoula, Biloxi, and Bay St. Louis, experience seasonal fluctuations in traffic and open most frequently during the oyster and shrimp fishing seasons.

Photograph 3-14.

Three Mile Creek drawbridge in Mobile not only disrupts mainline operations, but switching operations at Mobile Yard.

The bridges that pose the most serious impediment to operations in the corridor are two drawbridges located a mile apart just north of Sibert Yard in Mobile. These bridges not only cause delays to through freight trains in Mobile but also impact the yard operations at this busy CSX terminal. Sibert Yard's north switching lead crosses the Three Mile Creek drawbridge. A bridge opening there may delay or curtail switching activities. The nearby Chickasawbogue River bridge opens nearly once an hour — blocking train traffic in and out of Mobile for at least a quarter-hour at a time. Trains will line up on the far side of the bridge, on a 2.7-mile section of double track, to wait their turn to cross the single-track drawbridge and enter the terminal. That wait may be prolonged if there are outbound trains that must be sent north first in order to free up space in the terminal. In New Orleans, the Industrial Canal drawbridge at the south end of Gentilly Yard can cause similar delays to switching operations at the terminal.

Because their openings are unscheduled and frequent, the abundance of drawbridges interrupt train flow in the Gulf Coast corridor with "predictable unpredictability," and are incompatible with scheduled passenger trains.

3.3.2. Siding Lengths and Distances

Photograph 3-15.

Saint Elmo siding on the NO&M Subdivision siding is a controlled siding. Signals protect the switches at each end, and authorize entry and exit, but the siding itself is not signaled. As a result, trains must enter and operate it over it at Restricted Speed.

All of the railroad subdivisions that form the 718-mile CSX-owned portion of the Gulf Coast corridor between New Orleans and Orlando have just a single main track, except for small segments of double main track in the major terminals of New Orleans, Mobile, and Jacksonville. As a result, auxiliary tracks called sidings exist at various locations along the route in order to allow two trains to pass one another. On single-track rail lines, sidings are a critical factor in determining a route's operational capacity and fluidity. The lengths of sidings often will dictate the length of trains operating on a given line, since two opposing trains that are both longer than a siding will not be able to pass each other. Likewise, the distances between sidings also factors into a line's capacity, if the line is operated bidirectionally, since longer wait times caused by longer distances between sidings will prolong a train's total travel time.

The lengths of sidings and distances between them vary considerably on the route between New Orleans and DeLand. The most heavily used lines have long sidings at frequent intervals, whereas the more lightly used sections have stretches of 30 to 40 miles or more between sidings, and shorter average siding lengths.

The lines in the Gulf Coast corridor have two different types of sidings.

Signaled Siding (SSDG): A signaled siding is equipped with block signals that govern train movements on the siding.

Controlled Siding (CSDG): A track designated as a controlled siding is used for the purposes of meeting and passing trains. In signaled territory, signals do not govern movement on the siding. Entrance and exit signals only authorize trains to enter or leave the siding.

Most of the sidings on the NO&M Subdivision between New Orleans and Mobile are controlled (unsignaled) sidings. Although the siding switches at each end are signaled and remotely controlled by dispatchers, the siding itself is not a bonded, signaled track. This means that trains must enter it and operate it over it at Restricted Speed, which is a speed that permits stopping within one-half the range of vision, but not exceeding 15 mph, as designated in the CSX employee timetable. At that speed, a long train might require 20 minutes or more before the tail end passes the siding switch and is completely clear of the main track. Trains may depart the siding on signal indication at 20 or 25 mph, as designated in the employee timetable.

In unsignaled Track Warrant Control territory, speeds on controlled sidings are designated in the employee timetable as either 10 or 15 mph. However, a long, heavy freight train entering a siding with limited visibility may not be able to operate at more than 5 or 10 mph in order to maintain the ability to stop within one-half the range of vision.

By contrast, speeds on signaled sidings are controlled by signal indications, enabling trains on CSX lines to enter those sidings at speeds between 20 mph and 30 mph as designated by the signals and shown in the employee timetable.

Most sidings are equipped No. 15 turnouts, which allow for a diverging speed of 30 mph for passenger and 25 for freight trains. Since a signal protects each end of the siding, trains can depart a controlled siding or a signaled siding at 25 mph. Table 3-5 summarizes information on siding types, average lengths, and distances for CSX subdivisions between New Orleans and DeLand.

Table 3-5. Summary Table of Siding Types, Lengths, and Distances in the Gulf Coast Corridor

Subdivision	Miles	Movement	Signaled Sidings	Controlled Sidings	Average Siding Length (feet)	Sidings over 10,00 feet	Average Distance Between Sidings/Double-Track Sections
NO&M	138.5	CTC	3	7	8,066	1	11.5 miles
M&M	58.2	CTC	4	3	7,213	2	6.5 miles
PD	37.8	TWC	0	3	9,120	0	9.5 miles
P&A	165.7	TWC/YL	0	4	9,708	2	33.1 miles
Tallahassee	189.5	TWC/CTC	4	10	7,081	1	12.6 miles
Jacksonville Terminal (SP Line)	18.0	CTC	1	1	5,507	0	5.0 miles
Jacksonville	8.8	CTC	0	0	n/a	0	5.7 miles of double

Subdivision	Miles	Movement	Signaled Sidings	Controlled Sidings	Average Siding Length (feet)	Sidings over 10,00 feet	Average Distance Between Sidings/Double-Track Sections
Terminal (A Line)							main, 3.1 miles of single main
Sanford	101.4	CTC	9	0	10,290	9	11.3 miles

As can be seen above, between New Orleans and DeLand there are 21 signaled sidings, which is less than half of the 49 total sidings in the corridor. At the remaining 28 controlled sidings, trains are required to enter at Restricted Speed, which lengthens the time required for a meet. On busy subdivisions, such as the NO&M and M&M, this not only delays the operation of the train entering the siding, but can cause cascading delays to other trains that are following or meeting it. This type of operational constraint may be accepted for freight operations, but can pose an impediment to the reliable, on-time performance of scheduled passenger trains.

The distances between sidings also impacts operating reliability. The farther apart that sidings are spaced, the longer the wait times will be for trains stopped in them for meets. In the Gulf Coast corridor, the subdivisions with the longest average distances between sidings also have the lowest operating speeds in the corridor. Maximum freight train speeds on the Tallahassee and P&A subdivisions are 50 mph and 49 mph, respectively. On the 49-mph P&A Subdivision, which has two segments where sidings are more than 40 miles apart, the waiting time for meets at sidings can last 90 minutes.

Train lengths also have an impact on operational reliability, particularly on lines where siding lengths are not adequate for the lengths of trains being run. Advances in distributed-power locomotive technology have enabled railroads to adapt to changing commercial and operating conditions by running longer trains, maximizing the value of each train operated. The subdivisions in the Gulf Coast corridor have seen an increase in the length of the trains that operate over it.

The standard unit coal train operating in the corridor today between Flomaton and Jacksonville is 170 cars long, with a length of 9,300 feet. These trains operate two to three times per day. Other unit coal trains destined to the Port of Mobile average 150 cars, and a train length of 8,200 feet. The longest merchandise freight trains in the corridor, train Q572 for Birmingham and train Q606 for Waycross, will typically leave New Orleans at around 6,000 to 9,000 feet long, then pick up another 3,000 to 6,000 feet of cars in Mobile, creating trains of 9,000 to 14,000 feet. A subsequent pickup in Pensacola will lengthen the train even more.

There are only a limited number of places where long trains like these can pass each other. As a result, trains may have to wait at these longer sidings, instead of being able to advance and meet at a shorter siding closer to where the opposing train will arrive. This prolongs the wait times for trains at sidings. If a train encounters too many long waits, the crew might reach the end of its on-duty time before reaching its terminal, which will cause another delay while a new crew is brought out to the train.

The average merchandise train length in the Gulf Coast corridor is 7,106 feet, which already exceeds the average siding length of the Tallahassee Subdivision, the longest subdivision in the corridor. As a result, the long coal and merchandise trains that use this subdivision daily will have to meet at sidings in adjoining subdivisions, which could be 100 miles away from a train's location.

In the 590 miles between New Orleans and Baldwin (the western edge of the Jacksonville Terminal area), only six sidings have a length of more than 10,000 feet. Although the corridor has a few segments of double track several miles long near the cities of New Orleans, Mobile, and Jacksonville, those track sections are often occupied by trains waiting to get into a yard and cannot be used for meeting trains.

Photograph 3-16.

A northbound intermodal train waits for a signal at Michoud, the end of double main track from New Orleans.

In some cases, the longest sidings may not be able to be used to meet trains on a regular basis, because the siding is bisected by a highway grade crossing. Grade crossings cannot be blocked by trains for extended periods of time. For example, the longest siding on the Tallahassee Subdivision, and the only siding on the subdivision over 10,000 feet long — Madison siding, with a length of 10,573 feet — has two grade crossings running through almost the exact middle of the siding, preventing its use for meets by long trains. On lines used by scheduled passenger trains, long waits at sidings have the potential to impact on-time performance.

Table 3-6 details each siding and section of double main track in the proposed Gulf Coast corridor.

Table 3-6. Sidings and Double Main Track Sections Of The Proposed Gulf Coast Corridor

Name	Type	Mileposts	Length	Speed
Sanford Subdivision		**A 648.2-AA 749.6**		
Yukon	SSDG	A 652.9-A 655.0	10,140	25
Solite	SSDG	A 665.8-A 667.8	10,180	25
West Tocoi	SSDG	A 681.2-A 683.2	10,182	25
Pecan	SSDG	A 695.4-697.4	10,200	25
Satsuma	SSDG	A 707.1-A 709.1	10,200	25
Huntington	SSDG	A 715.7-A 717.7	10,200	25
Seville	SSDG	A 725.6-A 727.6	10,183	25
Barberville	SSDG	A 736.8-A 738.8	10,088	25
DeLand	SSDG	A 747.7-A 749.6	11,237	25
Jacksonville Terminal A Line		**A 639.4 – A 648.2**		
Beaver St.-St. Johns	2MT	A 642.5 – A 642.8	5.7 miles	50/30
Jacksonville Terminal SP Line		**SP 635.0-SP 653.0**		
Carnegie	CSDG	SP 638.0-SP 638.8	4,003	10
Whitehouse	SSDG	SP 643.2-SP 644.6	7,010	25
Halsema-East Baldwin	2MT	SP 650.0-SP 652.2	2.2 miles	79/60 (1), 45/45 (2)
Tallahassee Subdivision		**SP 653.0-SP 842.5**		
West Baldwin	CSDG	SP 653.0-SP 654.7	8,000	25
MacClenny	CSDG	SP 660.2-SP 661.0	3,502	25
Sanderson	SSDG	SP 670.0-SP 671.8	8,139	25
Olustee	CSDG	SP 680.3-SP 681.0	3,441	10
Lake City	CSDG	SP 693.5-SP 695.1	8,149	25
Wellborn	CSDG	SP 703.5-SP 704.4	3,437	10
Live Oak	CSDG	SP 713.3-SP 715.0	8,394	25
Lee	CSDG	SP 734.6-SP 736.1	8,179	25
Madison	SSDG	SP 744.6-SP 746.5	10,573	25
Greenville	CSDG	SP 755.7-SP 757.1	8,155	25
Aucilla	CSDG	SP 764.3-SP 765.0	4,682	10
Drifton	SSDG	SP 770.7-SP 772.5	8,393	25
Chaires	SSDG	SP 787.2-SP 788.8	8,173	25
Douglas City	CSDG	SP 824.8-SP 826.5	7,920	10
P&A Subdivision		**00K 810.7-00K 645.0**		
Chipley	CSDG	00K 769.4-00K 767.1	10,640	25
Sellers	CSDG	00K 719.7-00K 717.8	8,340	25
Floridale	CSDG	00K 682.9-00K 680.7	10,850	25

Name	Type	Mileposts	Length	Speed
Avalon	CSDG	00K 667.1-00K 665.2	9,000	25
PD Subdivision		**00K 645.0-00K 607.2**		
Gonzales	CSDG	00K 639.4-00K 638.5	5,830	10
Cantonment	CSDG	00K 636.7-00K 635.4	3,000	10
Molino	CSDG	00K 629.1-00K 627.2	9,120	15
M&M Subdivision		**00K 607.0-00K 665.2**		
South Flomaton-Miles	2MT	000 607.1-000609.3	2.2 miles	45/45 (1), 50/50 (2)
Wawbeek	CSDG	000 613.1-000 614.1	3,905	25
Canoe	SSDG	000 617.7-000 619.7	10,000	30
Nokimis	SSDG	000 624.4-000 626.5	10,065	30
Bay Minette	CSDG	000 641.2-000 642.8	7,025	25
Hurricane	SSDG	000 649.2-000 651.3	9,938	30
Akka-Aladocks	2MT	000 660.3-000 663.0	2.7	79/60 (1), 30/30 (2)
Sandy	CSDG	000 663.5-000664.0	2,460	25
Mobile	SSDG	000 664.2-000 665.4	7,100	30
NO&M Subdivision		**000 665.2-000 803.7**		
Alabama State Docks-Choctaw	2MT	000 665.4-000667.0	1.6 miles	45/45 (1), 30/30 (2)
Brookley	SSDG	000 669.7-000 671.8	10,395	25
Saint Elmo	CSDG	000 685.6-000 687.3	8,800	25
Orange Grove	CSDG	000 699.3-000 701.2	8,910	25
Gautier	CSDG	000 709.8-000 711.5	7,760	25
Ocean Springs	CSDG	000 722.3-000 723.1	3.000	10
Beauvoir	CSDG	000 730.2-000 731.9	7,930	25
Harbin	CSDG	000 745.0-000 746.9	8,880	25
Nicholson Ave.	CSDG	000 754.6-000 756.4	8,580	25
Claiborne	SSDG	000 766.2-000 768.1	9,000	30
Lake Catherine	SSDG	000 780.2-000 781.9	7,400	30
Michoud-North Gentilly	2MT	000 793.1-000 799.2	6.1 miles	60/60 (1), 40/40 (2)
Industrial Canal-NOT Jct.	2MT	000 801.3-803.7	2.4 miles	40/20 (1), 20/20 (2)

3.3.3. Track Warrant Control Territory

One-third of the 718-mile corridor between New Orleans and DeLand currently does not have signals on it. Instead, train movements are authorized by a dispatcher who issues track warrants to train crews over the radio. These warrants govern the distances that a train may move over a segment of railroad track. Track Warrant Control is in effect for movements across the westernmost 39.5 miles of the 189.5-

mile Tallahassee Subdivision, the entire 165.7-mile P&A Subdivision, and the entire 37.8-mile PD Subdivision.

The Code of Federal Regulations (49 CFR Part 236.0) limits maximum passenger train speeds to 59 mph and freight train speeds to 49 mph on lines without signals. On lines equipped with signals, but not equipped with a technology to automatically stop trains that pass a red signal, freight trains can operate as fast 60 mph and passenger trains can run at 79 mph.

In addition to the lower track speeds, trains on unsignaled lines may be further delayed by the process of requesting or clearing a warrant. If a train dispatcher is busy, a train crew may have to wait before the dispatcher has the time to issue a track warrant that establishes the limits of the train's continued movement. Similarly, when a train reaches the end of its warrant limits, the crew must call the dispatcher and release its warrant, providing a verbal confirmation that the train is no longer occupying the segment of track identified in the track warrant.

In two locations, the Gulf Corridor is operated under Yard Limits, which requires a train dispatcher or yardmaster to authorize movement of a train through the terminal area. Trains are required to operate through Yard Limits at a speed that permits stopping within one-half the range of vision, stopping short of any obstruction or Stop signal, not to exceed 20 mph until the leading end reaches the far limits. Trains encounter a 6-mile stretch of Yard Limits past Goulding Yard in Pensacola, and a 6.7-mile segment through Chattahoochee.

3.4. Local Trains

Photograph 3-17.

The Conrad Yelvington stone lot in Gautier, Mississippi, is one of the destinations for unit rock trains originating at quarries in the Southeast. Rock trains provide a unique, customized type of local freight service for asphalt plants and stone distributors throughout the Gulf Coast.

The Gulf Coast is home to a variety of industries that rely on rail service for the receipt of parts and materials crucial to their operation or the outbound shipment of goods and finished products. Chemical plants, industrial parks, lumberyards, corrugated box plants, heavy manufacturing facilities, brickyards, fertilizer plants, and grain coops are some of the common rail shippers found along the Gulf Coast corridor. Local freight trains, based at yards along the corridor, provide service to rail shippers, on schedules designed to meet customer needs and make connections with other trains.

Some rail shippers may have spurs that connect directly to the main track or a siding. As a result, local trains may block a portion of the main line in order to switch customers, which can cause delays to mainline trains. In some cases, mainline freights may have to wait for a local train to complete its switching activities and move to a nearby siding before mainline train movements can resume. In other cases, the local may leave cars on a siding for hours at a time to switch one or more customers, leaving that siding unavailable to pass mainline freight trains. The PD Subdivision, for example, has freight shippers located off the main line and two of the subdivision's three sidings. When local M733 is out switching customers, there are limited opportunities for through freight movements to occur without interruptions to the local's work.

On the M&M Subdivision, local M703 will occupy the siding at Bay Minette for three to six hours per day, requiring mainline trains to meet and pass at other locations. Between Baldwin and Lake City, Tallahassee Subdivision local M744 has two frequently switched customers located off the sidings at Sanderson and Lake City. On the NO&M Subdivision, locals based at New Orleans, Pascagoula, and Mobile all switch customers located off the mainline between New Orleans and Mobile.

Some rail shippers are located in industrial parks or at the ends of spurs and lead tracks that are long enough to hold an entire local train while the plant is being switched. In those situations, a local train's switching activities will occur on the spur and not interfere with mainline train movements, although the local freight may have a lengthy wait once its switching activities are completed and it's ready to reenter a busy main line and return to the yard. On days when mainline traffic is particularly heavy, a dispatcher may prioritize through freight movements, and a local train may be unable to complete all of its work.

In the Gulf Coast corridor, 17 local trains provide service on different segments of the route between New Orleans and DeLand. Most local trains work five or six days per week. Table 3-7 lists the operating characteristics for each local train in the corridor.

Table 3-7. Local Freight Trains in the Gulf Coast Corridor

Sub	Yard	Symbol	On-Duty	Operating territory
NO&M	Gentilly	M732	06:00, Mon.-Sat.	New Orleans-Long Beach
NO&M	Bayou Cassotte	M723	07:30, Mon.-Sat.	Pascagoula
NO&M	Bayou Cassotte	M722	19:00, Mon.-Fri.	Pascagoula Industrial Lead
NO&M	Bayou Cassotte	M726	22:00, Sun.-Thu.	Pascagoula-Gulfport
NO&M	Bayou Cassotte	M725	12:00, Daily	Pascagoula-Mobile
NO&M	Sibert	M724	07:30, Daily	Mobile-Theodore Industrial Lead
M&M	Sibert	M703	08:00, Mon.-Sat	Mobile-Bay Minette (M/Th), Bay Minette (Tu/F), Return to Mobile (W/Sa)
M&M	Flomaton	M704	08:30, Daily	Flomaton-Brewton
PD	Goulding	M733	09:00, Daily	Pensacola-Flomaton
P&A	Goulding	M734	21:00, Mon.-Fri.	Pensacola-Milton
P&A	Goulding	M736	15:00, M/W/F	Pensacola-Chattahoochee
P&A	Chattahoochee	M735	15:00, Tu/Th/Sa	Chattahoochee-Pensacola
Tallahassee	Tallahassee	M743	20:00, Mon.-Fri	Bainbridge Sub
Tallahassee	Tallahassee	M746	20:00, Mon.-Fri	Tallahassee-Live Oak (M/W/F), Tallahassee-Chattahoochee (Tu/Th)
Tallahassee	Lake City	M745	19:00, Mon.-Fri.	Lake City-Wellborn
Tallahassee	Baldwin	M744	09:00, Mon.-Fri	Baldwin-Lake City
Sanford	Pecan	A767	08:00, Mon.-Fri.	Palatka-Green Cove

In addition to the local trains listed above, CSX provides a specialized type of local service to the asphalt plants and stone distributors located along its lines in the Gulf Coast. Unit trains of rock originating at quarries throughout the Southeast will operate south to the Gulf Coast, dropping cuts of 30 to 60 cars at various plants and stone yards along the train's route. Once the cars are unloaded, the locomotives will return to retrieve the empty cars and operate back to the quarry.

As with other local freight customers, rail access to an asphalt plant or stone yard varies. At some locations, the rock trains must switch a site off the main track, while at other locations, the site is accessed off a siding. A few sites have their own siding, where a train can pull clear of the main line to do its work. At some locations where sites are accessed directly off the main, rock trains will be able to use nearby storage tracks to hold cars that are not being delivered to the customer. These storage tracks vary in length from 20 cars to 60 cars.

The most common destinations for unit rock trains in the Gulf Coast Corridor are:

- Long Beach, MS (NO&M Sub)
- Gautier, MS (NO&M Sub)
- Theodore, AL (NO&M Sub)
- Bay Minette, AL (M&M Sub)
- Cantonment, FL (PD Sub)
- Pensacola, FL (P&A Sub)
- Avalon, FL (P&A Sub)
- Galliver, FL (P&A Sub)
- DeFuniak Springs, FL (P&A Sub)
- Marianna, FL (P&A Sub)
- Midway, FL (Tallahassee Sub)
- Jacksonville, FL (Jacksonville Terminal Sub)
- Orlando, FL (Sanford Sub)

3.5. Terminals

3.5.1. New Orleans

Photograph 3-18.

Gentilly Yard in New Orleans has a two-track intermodal facility, along with two flat-switched freight yards, a local freight yard, and a bulk transload facility.

Gentilly Yard in New Orleans is located in the eastern part of the city, just east of the Industrial Canal and south of Interstate 10. The yard is approximately 2.2 miles long and consists of the following facilities: two back-to-back flat classification yards (North Yard and South Yard), one local freight yard, six receiving/departure tracks, a 2-track intermodal ramp, a car shop, a locomotive servicing facility, and a transload facility.

New Orleans is a key railroad gateway on the CSX network, where connections can be made to five other Class I railroads and one terminal railroad. Gentilly Yard has two major functions: receive and depart trains destined to and from major CSX terminals throughout the Southeast, and receive and depart trains destined to and from connecting railroads in New Orleans. Gentilly is unique among railroad terminals in that virtually none of its trains operate through the yard without some type of switching or reclassification. (Among the few exceptions are seasonal moves of grain and military equipment, and unscheduled autorack trains or unit trains of windmill parts.) As a result, there is no operational need to maintain a clear path for trains through the terminal. As operations have evolved, the single main track that follows the northern edge of the yard has become more operationally valuable as a much needed extended-length receiving/departure track that long merchandise trains can be assembled and air-tested on.

The dual function of the terminal is reflected in how the back-to-back flat yards are used as well. North Yard, at the eastern edge of the terminal, has 13 tracks and is used for building trains to other CSX terminals. It's the shorter of the two yards, with track lengths of approximately 2,500 to 3,000 feet. South Yard, at the western edge of the terminal, also has 13 tracks and is used to build trains for connecting railroads. It has approximate track lengths of 3,000 to 5,000 feet. The local yard, adjacent to South Yard, is short, with tracks that hold 20 cars apiece. The six Receiving/Departure tracks have approximate lengths of 7,000 to 8,000 feet and arc around the southern side of both yards. The intermodal ramp is located south of the Receiving/Departure tracks. One yard crew switches North Yard and two yard crews switch South Yard during each shift.

Gentilly Yard builds four daily trains for connecting railroads plus two daily blocks of transfer cuts for other railroads. In addition, the yard builds five trains for CSX destinations and one local train for the NO&M Subdivision. Union Pacific, BNSF, and New Orleans Pubic Belt make their own deliveries and pickups; CSX builds a transfer train for Canadian National. (Cars for Kansas City Southern and Norfolk Southern are handled by the New Orleans Public Belt.) Gentilly Yard receives four to seven inbound CSX trains per day. The efficiency with which inbound CSX trains can be received and classified depends on the regularity with which connecting railroads can make pickups and deliveries, as well as the yard's ability to assemble and depart trains for CSX destinations. If connecting trains are late leaving the yard or the receiving/departure tracks are full, incoming CSX trains will have to wait outside the yard on 6.1 miles of double main track leading north toward Michoud, or on passing sidings even farther away. When sidings close to the yard are filled with waiting trains, however, the outbound trains have a farther distance to travel before they can reach a siding where meets or overtakes can occur.

Photograph 3-19.

The Huey P. Long Bridge across the Mississippi River provides the only river crossing for railroads at New Orleans. Western connections to and from CSX are dependent on the use of trackage owned and controlled by different operators.

The connections from western railroads cannot always be consistently timed. Connecting trains from UP, BNSF, and CN use a combination of New Orleans Public Belt and Norfolk Southern lines to cross the city. These lines are heavily used, and have at-grade diamonds or interlockings at various locations controlled by different railroads. The NS line also has two daily curfews to accommodate Amtrak trains, from 4 a.m. to 8 a.m., and from 6 p.m. to 8 p.m. During those curfews, freight traffic is halted until the passenger trains are through. Regularly scheduled maintenance windows on the Huey P. Long Bridge spanning the Mississippi River can also delay connections from arriving. The drawbridge over the Inner Harbor Navigation Canal at the east end of Gentilly Yard causes additional operating inconsistency. The bride opens approximately 10 times a day, on average, not only blocking mainline freights from entering and exiting the yard but also disrupting switching activities at the South Yard.

Inbound trains from UP, BNSF, and CSX are routed into the Receiving/Departure tracks, where their blocks will be swapped and new outbound trains in each direction will begin to get built. The classification yard tracks hold smaller blocks that will then be added to the trains being built on the Receiving/Departure tracks or on the mainline track. The main track is used to hold blocks of cars 6,000 to 8,000 feet, usually for CSX destinations, and is routinely occupied about 18 hours a day or more. The trains that Gentilly Yard builds for CSX destinations usually range between 6,000 and 10,000, and the inbound trains arriving from CSX yards are a similar length.

Because the Receiving/Departure tracks are used to build the trains for western carriers, trains for CSX destinations will often be built from blocks of cars in the North Yard that will then be doubled or tripled.

Doubling or tripling refers to building a train from two or three blocks of cars staged on different yard tracks. When yard tracks are shorter than the desired train length for a train departing a yard, blocks of cars on multiple tracks are combined together on the main track until the train reaches its desired length. The action of doubling or tripling consumes considerable capacity on the main track, as the main track is the only track of sufficient length to accomplish this. Trains arriving at yards that are longer than the yard track lengths must double or triple into the yard as well.

If space is available, the long trains will be shoved onto the mainline track, or a Receiving/Departure track if possible, for the final assembly of blocks, an air test, and Positive Train Control (PTC) initialization. However, if those options are not available, then one of the two main tracks extending north of the yard toward Michoud will become a Departure track as the outbound freight is built.

Photograph 3-20.

An intermodal train rolls north on the double main track north of Gentilly Yard. Owing to the relatively short length of yard tracks at Gentilly, one of the two main tracks is regularly used to build long merchandise trains.

Any long freight being built in this manner will be blocking the crossovers at the northern entrance to Gentilly Yard, and will extend into double track territory beyond. Building an outbound freight this way could take between 1 hour and 3 hours. If the train is long enough that a distributed power locomotive is required to be placed in the middle or at the rear of the train, the total build time will rise to 4 to 6 hours. During the time that outbound freights are getting built, inbound CSX freights have no way of accessing the Receiving/Departure tracks and will have to hold out of town until the outbound train has departed. With the yard scheduled to build five CSX trains a day, and an assembly time of 1 to 3 hours apiece, the northern entrance of the yard has the potential to be frequently blocked. As a way of regulating incoming flow, long merchandise trains from Waycross, such as train Q609, may have to be staged 235

miles away in Pensacola, so long trains can arrive at Gentilly Yard at least 6 to 8 hours apart. As CSX train lengths have grown, the short classification tracks and limited number of Receiving/Departure tracks at Gentilly Yard have become unable to efficiently accommodate the operational needs of the terminal.

3.5.2. Mobile

Photograph 3-21.

A remote control switch job works the north end of Sibert Yard. Right behind the locomotive is the Three Mile Creek drawbridge, which holds the M&M Subdivision main line and the Sibert Yard switching lead.

Sibert Yard in Mobile, Alabama, is the primary freight yard for rail shippers located along the Gulf Coast in the states of Mississippi and Alabama. This heavily industrialized region has an abundance of rail shippers such as chemical plants, box and paper manufacturers, food products companies, brickyards, shipbuilding and other heavy manufacturing facilities, lumberyards, and more. Sibert Yard sorts cars set out by mainline freights for delivery to local customers via local freight trains, and builds blocks of outbound cars to be picked up by mainline freights either headed south to New Orleans and connections with Western railroads or headed northward to major CSX terminals across the Eastern U.S. CSX also interchanges with three Class I railroads, one regional railroad, and one terminal railroad at Mobile. Sibert Yard consists of a car shop, a 1-track intermodal ramp for local trucking and container operations, a 23-track flat-switched freight yard, two drill tracks where mainline freights set out and pickup cars, a single mainline track, and a 7,100-foot signaled siding.

In the last few decades, new rail-served industrial parks have been built at Pascagoula and Mobile, and other industries have opened up as well, increasing the volume of local traffic through Sibert Yard.

More recently, train operations have evolved in accordance with a plan to operate longer trains at longer durations between departures. The rising traffic levels and growing train lengths have maximized the use of available capacity at the Mobile terminal. However, opportunities to reconfigure or expand the yard are constrained by the physical location of the terminal.

Sibert Yard is hemmed in on all sides. The terminal's eastern edge borders the Port of Mobile and the Gulf of Mexico beyond it. The terminal's western edge abuts the 29-track Interchange Yard of the Terminal Railway Alabama State Docks. The terminal's south end is squeezed between more rail yards (belonging to Norfolk Southern and Alabama & Gulf Coast), the Port, and the downtown of Mobile. The terminal's north end is blocked by a navigable waterway, Three Mile Creek, which the CSX mainline track and a switching lead cross on a drawbridge that opens an average of five times per day, and a second drawbridge, Chickasawbogue River, just beyond it. When the Three Mile Creek drawbridge opens, it not only delays mainline train movements in and out of Mobile, but also halts switching activity at the yard's north end.

Photograph 3-22.

A switch crew works the south end of Sibert Yard. To minimize disruptions to yard switching activities in the yard, mainline freights are confined to the mainline track in the foreground and a siding (unseen at right), which prevents more than one mainline train at a time from making setouts and pickups.

To compensate for the location's physical constraints, CSX has developed an operating plan that confines the various terminal operations to specific locations. Mainline freights, for example, may not enter the yard to meet or pass other mainline trains, as that would interrupt yard switching. Therefore, the mainline freights are limited to moving through the terminal, one at a time, on either the main track or the signaled siding. Any freight train scheduled to work the yard must stop and leave its cars on the

main track while making setouts and pickups. All setouts and pickups take place on the two drill tracks next to the mainline track. Mainline freights with work will pull up to the yard on the main track, cut off their locomotives, go through manual crossovers to reach the drill tracks, make their setouts and pickups, then return to the mainline train when done for an air test before continuing on. One daytime yard job works at the north end of the yard, while another job works at the south end, both using remote-controlled locomotives. A nighttime switch crew uses conventionally operated locomotives for work. These crews not only classify setouts and pickups for the mainline trains, but sort cars for three local trains that originate at the yard, as well as cars to be delivered for interchange to other railroads in Mobile.

This operating plan keeps switching activities as uninterrupted as possible, but creates a bottleneck for mainline operations because of the limited number of through tracks available. Two daily northbound merchandise freight trains and two to five southbound trains per day are scheduled to work the yard (including one southbound intermodal train three days per week). Any mainline freight train making setouts and/or pickups at Sibert Yard, regardless of direction, will need 2 to 3 hours to complete its work. On days when seven trains are scheduled to work the yard, the mainline track could be blocked for 14 to 21 cumulative hours, leaving little additional time for other trains to pass through the terminal. The 7,100-foot signaled siding can be used to hold through trains that have no work in the yard, provided the trains can fit in the siding, but they may face a long wait exiting the sidings opposite end if a mainline freight is blocking the interlocking. Mobile is also a crew change point for all trains. Inbound crews will do any required switching (setouts and pickups) if they have the time, since they are already familiar with the train.

Photograph 3-23.

The Dauphin Street grade crossing north of the Mobile Convention Center can be blocked by trains working at the yards in Mobile. A Terminal Railway Alabama State Docks switch job occupies the grade crossing while switching cars. The terminal railroad uses CSX trackage for extra space (head room) when switching cars at its Interchange Yard.

The longest trains that work at Sibert Yard are the two daily northbound trains, trains Q606 and Q572, which will block every other mainline and switching move in the terminal, as well as nearby road crossings. These trains will typically leave New Orleans with train lengths of 6,000 to 9,000 feet, then stop at Mobile and pickup another 3,000 to 6,000 feet of railcars. At those lengths, the tail ends of the northbound trains are stretched south past the yard and through downtown Mobile, blocking the south switch of Mobile siding, the south end of the switching leads at Sibert Yard, and two road crossings on either side of the Mobile convention center and a road entrance to the Mobile Alabama Cruise Terminal. Northbound trains will typically have to cut their locomotives by the Sibert Yard office, then pull across the Three Mile Creek drawbridge, and then back over the drawbridge on the switching lead to access the drill tracks. If length permits, the northbound trains with work won't cross the drawbridge, but instead use a hand-throw crossover in the yard before the drawbridge to reach the closest drill track so they don't tie up the switching lead.

On some days when the northbound trains are known to be extremely long, the locomotives may cut away from their train south of the Canadian National diamond, 3 to 4 miles south of the yard, bring only the cars for delivery north with them into Sibert, pickup the cars to continue on with, then shove all the way back down to their train. On other days, the pickup for train Q606 at Sibert Yard may be long enough to require it to leave Mobile with a distributed power locomotive inserted into its consist. This adds another 60 minutes or more to its work time in Mobile. Southbound intermodal trains working at

Sibert Yard will also tie up the south end of the terminal, blocking the south end of the Mobile siding and the south switching leads. Some southbound merchandise freights will also block the yard when working. Additional delays at the south end of the yard are caused by the Terminal Railway Alabama State Docks, whose daily trains will request authority to temporarily use CSX trackage for extra space (head room) when switching cars at its adjacent yard.

The one-at-a-time way that mainline trains move through Mobile causes cascading delays on CSXs Gulf Coast route heading away from the city in both directions. Trains have to be staged at outlying sidings, slowly advancing one siding forward toward Mobile as the opportunity arises, and assuming the train can fit in the siding ahead. After a certain point, an inbound train's crew may not be able to make it to the yard before their on-duty time expires. In that situation, a replacement crew will have to be called and shuttled out to the train, further delaying its progress. As more sidings near Mobile become staging tracks for trains waiting to enter the terminal, there are fewer opportunities to use those sidings for meets or passes, which affects the overall fluidity of both the NO&M and M&M subdivisions. The first siding south of Mobile, called Brookley, is 4.5 miles from Sibert. At 2.1 miles in length, Brookley is also the longest siding on the NO&M Subdivision. It can provide a great opportunity for long trains to pass each other, but is commonly blocked by trains waiting for space to open up in Sibert Yard. On some occasions an outbound train may have to hold in Brookley siding to allow an even longer train to advance into the yard. When trains staged at Brookley siding are longer than the siding itself, the likelihood is strong that they will be blocking the Navco Road grade crossing, located 0.4 miles south of the south siding switch. The road provides the only access to a residential community located between Interstate 10 and the Dog River.

Photograph 3-24.

The south end of Brookley siding is eight-tenths of a mile from the Navco Road grade crossing, which provides the only vehicular access to a Mobile neighborhood located along the Dog River.

Approximately two to three times per week, CSX will operate a train of export coal to the Port of Mobile's McDuffie Coal Terminal, south of downtown Mobile. The coal trains are 150 cars long, but the Port cannot accept all 150 cars in one delivery. As a result, CSX will cut the train in two on a lead track just outside the entrance to the Port. The locomotives will deliver the first 75 cars, then go back outside of Port property to retrieve the second cut of 75 cars and deliver it. The lead track that CSX uses to store the rear 75 cars of the coal train does not completely clear the entire train. As a result, the last few cars will be blocking the universal interlocking at Choctaw, which begins the start of a short double main track section through the city of Mobile, past the Amtrak station and into Sibert Yard. As a result, a coal train sitting on the Choctaw interlocking will confine all other movements through downtown Mobile to just one track, further delaying terminal operations.

Photograph 3-25.

South of Choctaw interlocking, the lead track to McDuffie Coal Terminal curves to the right, while the NO&M Subdivision main track continues straight at left. The interlocking just around the corner out of sight, will be blocked by cuts of coal cars temporarily left on the lead track during the coal train delivery process.

Canadian National also serves the Port of Mobile and the McDuffie Coal Terminal. Its line crosses the CSX NO&M Subdivision on an automatic diamond (signaled to permit movement across in a first-come, first-served fashion). CN trains cross the CSX line at Mobile approximately two to four times per day. CSX installed a one-way, low speed (OWLS) flange-bearing diamond at the crossing, which had the effect of raising tracks speeds on CSX to 45 mph across the diamond, but requires CN trains to operate much more slowly across. Though its trains may be infrequent, the time that CN trains occupy the diamond has increased.

Photograph 3-26.

Canadian National crosses the CSX main line on a flange-bearing diamond at Mobile.

The Port of Mobile also has a grain terminal that is accessed off of Mobile siding. From November through March, CSX will operate approximately one unit train per day of export grain to the Port. More frequently, CSX will operate 56-car unit pipe trains received in interchange from the Terminal Railway Alabama State Docks and destined to the Florida Panhandle.

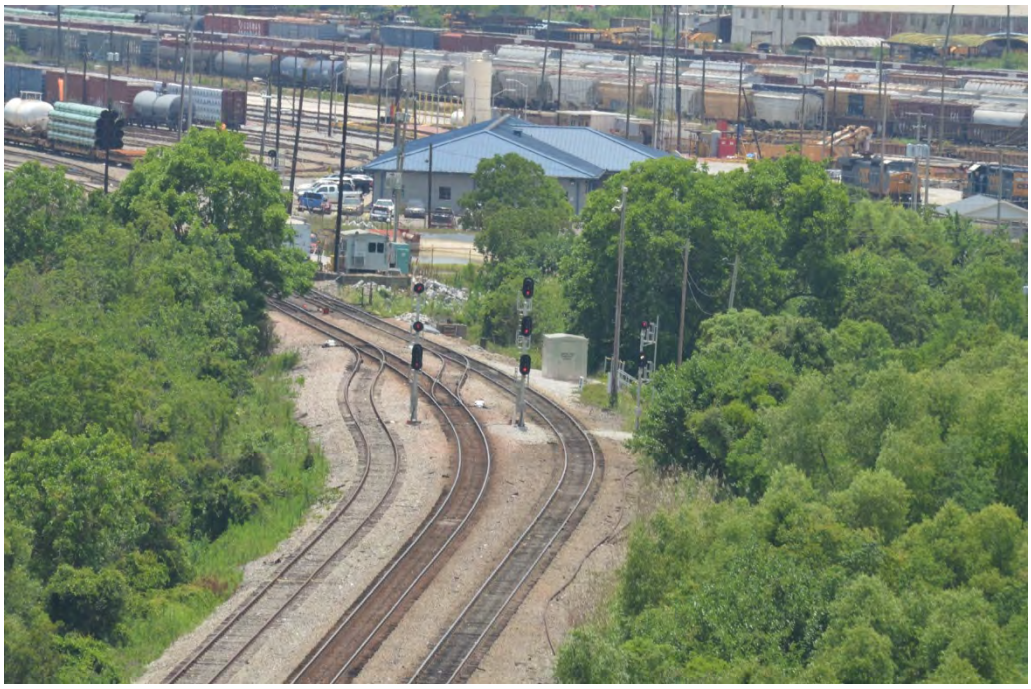
The two drawbridges located north of Sibert Yard pose further operational constraints on the terminal. Train movements across the bridge are only permitted after the train dispatcher has communicated with the yardmaster at Sibert Yard, who then coordinates the bridge openings. The bridge closest to the yard, Three Mile Creek, carries both the M&M Subdivision mainline track and the Sibert Yard switching lead. When the bridge opens, both mainline and switching operations are suspended for at least 16 minutes until the bridge closes. The bridge typically opens an average of 5 times per day.

Photograph 3-27.

The Chickasawbogue River drawbridge poses a significant constraint to operations in the Mobile terminal, owing to its frequent openings and single-track span. As one train slowly rolls across the bridge, another waits its turn to enter the Mobile terminal at the end of double track, 1.2 miles from the terminal.

One mile north of Three Mile Creek is the Chickasawbogue River drawbridge, one of the busiest drawbridges on the entire Gulf Coast corridor. Bridge openings occur about 20 times per day, on average, allowing 40 to 50 vessels a day to pass through, but blocking train movements for at least 16 minutes per opening, and sometimes more. The first opportunity for mainline trains to pass each other north of Sibert Yard occurs on the north side of the Chickasawbogue River drawbridge, where a 2.7-mile stretch of double main track begins. Train meets occur quite frequently here, and after a meet, southbound trains entering the Mobile terminal may slowly proceed across the bridge as they accelerate and head toward the terminal. On occasion, an inbound train may halt on the bridge until the train ahead completes its departure from the yard, a situation that has caused the Coast Guard to receive complaints about the failure of the bridge to be opened in a timely manner for marine traffic. A 2,460-foot controlled siding exists between the two drawbridges. It's not long enough to hold a train, but is used by track maintainers as a hi-rail vehicle access point. The siding is also used as a place to park light engines that were cut off from trains parked at Hurricane siding, a remote siding location north of the city at the Tensaw River, by crews who were about to go off duty.

Photograph 3-28.



Sandy siding ends at the Three Mile Creek interlocking, just before the main track and switching lead cross the Three Mile Creek drawbridge to reach Sibert Yard.

Given the sheer variety of operational constraints, and its physically confined location, Sibert Yard poses the biggest operational bottleneck on the Gulf Coast corridor to implementing scheduled passenger rail service.

3.5.3. Jacksonville

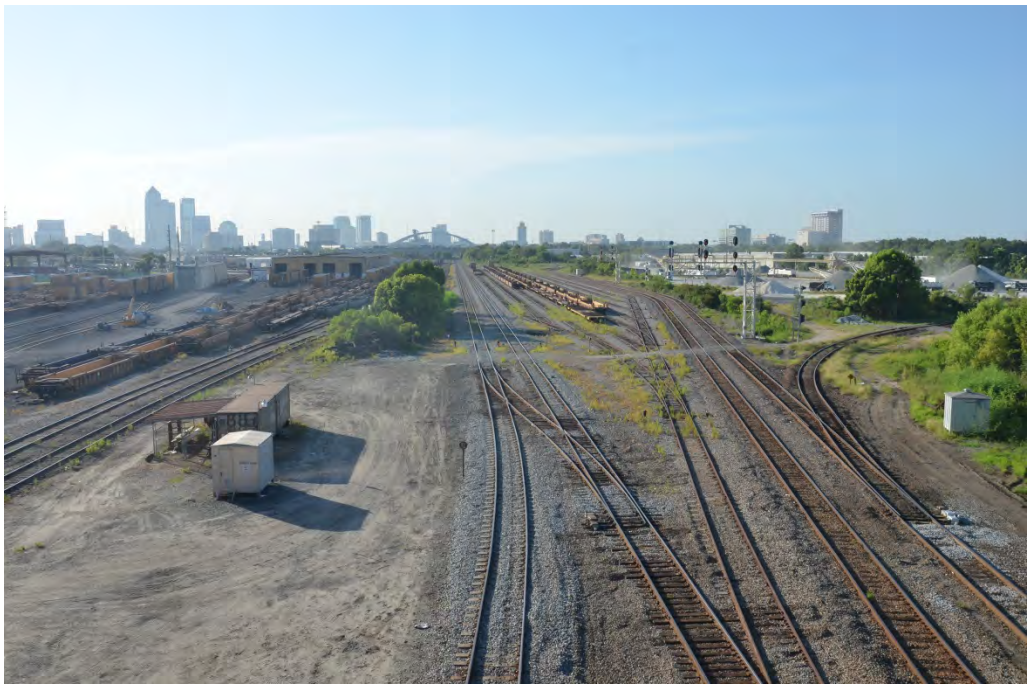
Photograph 3-29.

CSX yard and mainline trains pass at the south throat of Moncrief Yard. Norfolk Southern's connection to FEC, which converges with CSX at Beaver Street, is shown at left. An intermodal train occupies the singly bypass track around Moncrief Yard at far right.

CSX lines from all compass points converge at Jacksonville. The city is a southern gateway for CSX's I-95 corridor from New York, its Southeastern corridor from Chicago, the Gulf Coast line from New Orleans, and several routes to the major consumer markets, seaports, and industrial regions of Florida. Multiple railroad yards and facilities are located in the terminal region between Baldwin and Jacksonville. Merchandise traffic is switched at Moncrief Yard and Baldwin Yard; automotive traffic is handled at the Lane auto ramp; bulk trains of coal, rock, and other commodities are refueled, inspected, and shortened or lengthened to meet customer requirements at Baldwin Yard; local freight is transloaded to and from trucks at the West Jacksonville Transflo facility; and intermodal traffic is reclassified or loaded and unloaded at two area terminals, Moncrief Yard and Duval Yard. CSX also runs transfer freights to and from its interchange partner Florida East Coast Railway several times a day.

Most of the trackage through the terminal area is comprised of high-density, signaled lines with double main track. The few exceptions are the SP Line, the part of the Gulf Coast corridor that links Baldwin and Jacksonville, and a segment of the A Line north of Beaver Street where only a single track bypasses Moncrief Yard (CSX's busiest yard in the city), heading northward toward the Jacksonville Amtrak station and a branch line to the Port of Jacksonville.

Photograph 3-30.



The view looking south at the Beaver Street interlocking includes the northwest wye quadrant connection to the SP Line (far right) and the double-track connection to the Florida East Coast angling left from the CSX main line. The FEC connection is used by CSX and Norfolk Southern trains.

The biggest operational challenge in Jacksonville to implementing scheduled passenger service in the Gulf Coast corridor is the Beaver Street interlocking, where the SP Line from the Gulf Coast connects to the north-south A Line at a wye. The Beaver Street interlocking not only includes the SP Line wye, but also the south entrance of Moncrief Yard, as well as converging tracks owned by two other railroads that transfer cars with each other, Norfolk Southern and Florida East Coast. The Beaver Street interlocking sees 50 to 70 train movements a day.

The interlocking is used by mainline freight trains on both the SP Line and A Line, including six scheduled Amtrak passenger trains operating on the A Line through Jacksonville and intermodal trains operating between Moncrief Yard and Baldwin Tower on the SP Line. In addition, transfer jobs, intermodal trains, and light engine moves shuttling between Duval Yard and Moncrief Yard will use the Beaver Street interlocking, as will yard jobs at Moncrief that need some extra track space (head room) to switch cars, CSX intermodal and merchandise transfers headed to and from the Florida East Coast, and Norfolk Southern trains also headed to and from the FEC. In mid-morning, NS will send two or three back-to-back high-priority UPS intermodal trains onto the CSX line at Beaver Street to cross over to the FEC connection.

Any mainline train using the northwest wye track (called the Honeymoon Wye) at Beaver Street will block any other through moves from occurring, including those on NS and FEC, and may block yard

switching activities at Moncrief Yard. Track speed on the Honeymoon Wye is 10 mph for freight trains, meaning a long train moving through Beaver Street could block the interlocking for 15 minutes or more.

The Beaver Street wye has become used more frequently by CSX in recent years, as the railroad has sought to optimize the fluidity of its mainline network and terminal facilities in the Jacksonville area. Intermodal trains from northern points may set out part of their train at Duval Yard, then operate south to the SP Line (via the Duval Connection) and head east to the Honeymoon Wye to deliver the rest of its train to Moncrief Yard. In addition, light engine moves frequently shuttle between Duval Yard and the Moncrief locomotive servicing facility via the SP Line and the Honeymoon Wye track.

Photograph 3-31.

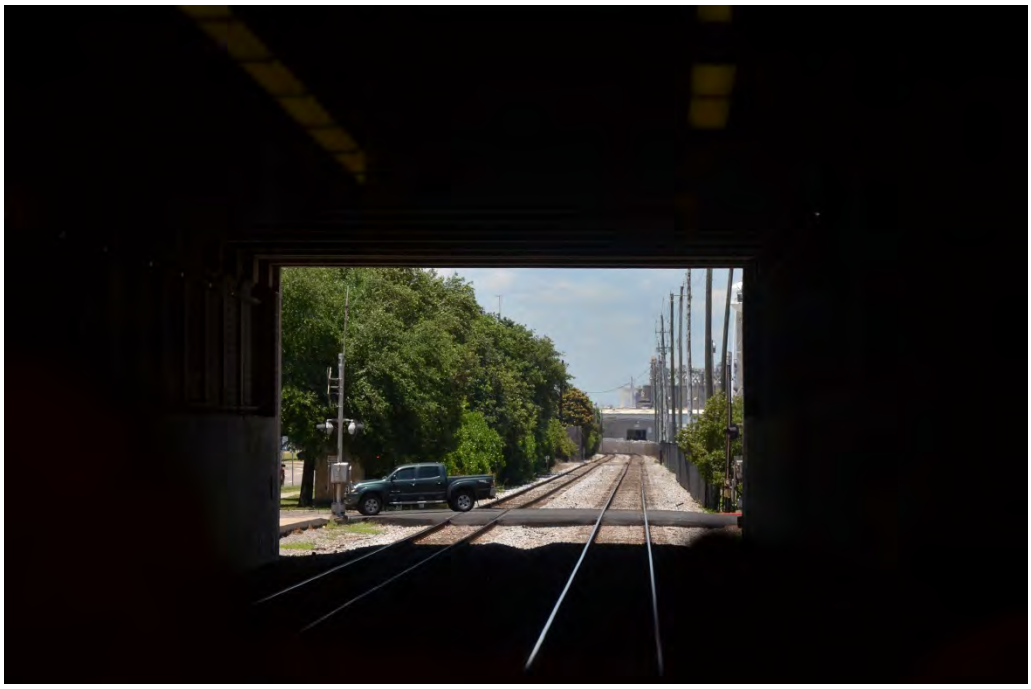
Light engines pass the Honeymoon Wye track.

Operations at Beaver Street are further constrained by the existence of just one mainline bypass track past Moncrief Yard headed north. At the north end of Moncrief Yard, the A Line's track configuration only allows access from one of the line's two main tracks to the Jacksonville Amtrak station and to the Grand Junction wye. This hampers operating flexibility and line fluidity at one of the busiest locations in in the terminal. The wye at Grand Junction forms the southern end of the single-track Kingsland Subdivision, which serves the Port of Jacksonville and industrial shippers north of the city. Yard limits on the Kingsland Sub begin immediately beyond the wye, and continue for nearly 2 miles. This section of the Kingsland Sub is frequently occupied by a Grand Junction yard job switching customers.

At the west end of the city, the east-west SP Line crosses the double-track Callahan Subdivision at Baldwin Tower, an at-grade diamond with connecting tracks in all four quadrants. Baldwin is a busy junction, handling both mainline trains moving in four directions as well as movements to and from Baldwin Yard, a major bulk train and merchandise freight yard located just south of the diamonds.

4.0 Methodology of the Operations Simulation Model

Photograph 4-1.



Framed through the Alabama Convention Center, the double main track NO&M Subdivision heads north toward Sibert Yard.

4.1. Overview

This section describes the methodology used to develop the Operations Simulation Model of the proposed scheduled Amtrak passenger rail service along the Gulf Coast of the southeastern United States on rail lines owned by CSX Transportation between New Orleans, Louisiana; Mobile, Alabama; and DeLand, Florida. An Operations Simulation Model Methodology is a formal description of the process used to construct, dispatch, and analyze a railroad operations simulation model.

Operations simulation modeling consists of understanding the effects of a proposed or anticipated change in infrastructure, trains, or both, on the operation of all of the trains that operate on a selected portion of a railroad. “Changes” typically consist of additional trains, additions or subtractions to fixed infrastructure (e.g., a new siding), a modification in train characteristics (e.g., longer trains or faster trains), or a modification in when trains are operated (i.e., a new train schedule). To understand the effects of the change, two operations simulation model cases are prepared to enable comparisons between the alternative future conditions in which the change is implemented, and the future condition in which the change is not implemented. Formally, the “No-Build Case” forecasts how all trains would have operated over the railroad *without* the proposed change. The “Build Case” forecasts how all trains

would have operated over the railroad *with* the implementation of the proposed change. A mathematical comparison between the output metrics of the two cases measures the effect of the proposed change.

Operations simulation modeling seeks to replicate the real world of train operation. The operations simulation model attempts to dispatch trains such that each train independently obtains its best performance and outcome given its priority among all trains, within a set of rules that limit behavior of trains such as maximum speed, acceleration and braking rates determined by their tonnage and horsepower, and required station and terminal stops. Analogously, trains operating over a railroad are similar to the turbulent flow of fluids flow through a pipe, and dissimilar to how cogs intermesh in a clock. Railroad operations simulation measures when and at what speed fluids arrive at the far end of the pipe, and is not a precision instrument of deterministically giving lock-step order to fluids within the pipe. The model delivers metrics that inform the user about the performance of trains only in the world that the user has defined; in order to find out how trains would operate in a different world, the user must define the world differently and re-operate the model.

Typically, mitigation measures are incorporated into the Build Case in an iterative manner in order to zero-out undesirable effects of a proposed change. Undesirable effects include increased delays of trains, reduced train trip times, increased grade-crossing blockage time, or failure of passenger trains to arrive at stations on time. Mitigation measures typically undertaken include additional infrastructure, revisions to timetables, or changes to operating patterns. The Build Case is iteratively dispatched until the negative effects, compared to the No-Build Case, are eliminated or deemed acceptably reduced.

4.2. Methodology Outline

This methodology includes:

- The data collection plan for obtaining information about current infrastructure, current train operations, and proposed future operations that were used to construct the operations simulation model
- The software tool used to for the operation simulation model
- A description of the model cases that were developed, and the rationale for their selection
- The methods by which the cases were dispatched, including the randomization method used to incorporate into the model cases the normal operating variability that occurs on a railroad
- The mitigation strategy to reduce or eliminate undesirable affects of the proposed Amtrak service on CSX freight services
- The outputs that were captured from the operations simulation model to enable a quantitative comparison between the No-Build and Build cases.

4.3. Data Collection Plan and Sources

4.3.1. Data Requirements

Data required for this operations simulation model consisted of:

1. Infrastructure data, e.g., track, signals, bridges, and other features. Infrastructure data includes:

a. Method of Operation of main tracks and controlled and signaled sidings in the territory that is to be modeled. Methods of Operation include Centralized Traffic Control (CTC), Track Warrant Control (TWC), and Yard Limits (see section 4.0 for definitions).
b. Track configuration and degree of gradients in the territory to be modeled, and locations where gradients begin and end.
c. Maximum authorized freight and passenger train speed in the territory to be modeled. Maximum authorized speeds collected included:
    i. Existing timetable speeds on main tracks for both freight and passenger trains, including existing curve limits, and the locations where speed limits change.
    ii. Maximum authorized timetable speeds for freight train types, such as key trains (trains carrying hazardous materials) and intermodal trains
    iii. Train speeds over the diverging route of main track turnouts, by type, and by size of turnout
    iv. Train speeds into and through sidings, by type of train
    v. Train speeds over drawbridges, by individual drawbridge
    vi. Maximum authorized train speeds, by type of train, for the different Methods of Operation in the territory that is to be modeled
    vii. Other civil speed limits such as agreements between CSX and municipalities to reduce speeds
d. Other features of the infrastructure that affect the speed of trains, the routes that trains are authorized to use, or the capacity (in trains) of the railroad lines to be modeled. This includes drawbridges, diamonds (at-grade railroad-to-railroad crossings), and other special infrastructure features. For drawbridges, data required includes:
    i. Location (beginning and ending mileposts)
    ii. Method of Operation (e.g., manned, remote, power-operated)
    iii. Typical cycle time of an opening event
    iv. Precedence of passenger (marine or railroad)
    v. Normally open or closed
    vi. Average daily frequency of opening events
    vii. Periodicity of opening events (e.g., mostly weekday, mostly weekend, seasonality, etc.)

2. Current freight train operating data. Current freight train operating data includes:
    a. Identification code and operating plan of freight trains that operated in the modeled territory. This includes through freight trains, local freight trains, and switch engines, as well as trains of other railroads that cross, use trackage rights, or otherwise affect the operations of the modeled territory.
    b. For each freight train, its length, horsepower per ton, maximum speed, and type. Train types are associated with priority, routes, work events, and terminal dwell.
    c. Train routes, work events, crew changes, refueling locations, and switching patterns and locations.
    d. OS Data ("OS data" refers to a time-stamped record of actual train movements as each train enters and/or exits geographic locations such as control points, locations designated as stations in the employee timetable, or releases its TWC authority on a main track. "OS" variously stands for "on sheet," "on switch," or "on station" depending

on the Method of Operation of the track segment over which the train is operating, but in all cases simply refers to the time a train arrived at, passed, or departed a given geographic location.)

3. Anticipated future freight train operating data. This consists of data similar to existing freight trains, but modified to reflect anticipated changes in freight train types, frequency of operation, schedule, locations of work events or switching, length, and horsepower per ton.
4. Proposed future Amtrak train schedule. This includes the frequency, station stops, arrival and/or departure times from stations, and train consists for the proposed Gulf Coast service. Train consist data includes number and type of locomotives, number and type of passenger cars, and anticipated passenger loads on trains.

4.3.2. Data Sources

The sources for data were as follows:

1. From CSX:
    a. For infrastructure existing at this time:
        i. Current employee timetables
        ii. Current CSX operating rules
        iii. Drawbridge operating data
        iv. An existing CTC RTC infrastructure file that electronically depicted the infrastructure at the time the file was developed
    b. For current freight trains:
        i. Current operating data for trains, consisting of schedules, frequency, train length, work events, horsepower per ton
        ii. OS data for the period of time May 1 to May 14, 2016
    c. Anticipated future freight trains:
        i. CSX developed a train growth forecast using federal Freight Analysis Framework data (see Appendix A)
2. From Amtrak:
    a. The proposed passenger train timetables and consists, extracted from Amtrak's "Report for the Southern Rail Commission on Potential Gulf Coast Service Restoration Options," dated December 2015.

4.4. Software Tools

The software used for the operations simulation model was the Rail Traffic Controller operations simulation model developed and licensed by Berkeley Simulation Software, LLC. Software Version 70Q Beta, dated 30 July 2016. Additional data pre- and post-processing tools, developed by HDR, were used to automate the input and output of data from the model, but these do not affect the dispatching or performance of trains within the RTC model itself.

4.5. Operations Simulation Modeling Plan

This section describes the basic plan of how the operations simulation model cases were developed, dispatched, and iterated.

All cases were dispatched for a 14-day period consisting inclusive of a 2-day warm-up and a 2-day cool-down. Train performance metrics were captured only for the 10-day period of the model between the warm-up and cool-down periods. The purpose of the warm-up and cool-down is to obtain a steady-state of operation. During the warm-up period, train volumes taper upward as trains have not yet entered and fully populated the network and, and during the cool-down period train volumes decline as trains begin to exit the network without replacement by new seed trains. In both warm-up and cool-down, train volumes and dispatching conflicts are unrealistic, thus metrics if captured from these periods and averaged with the steady state condition would overestimate the performance of the network.

4.5.1. Modeling Cases

Four modeling cases were developed:

1. Base Case. This case consisted of train operations at the current time (May 1 to May 14, 2016) in the modeled territory. The purpose of a Base Case is for calibration and determining the accuracy of the operations simulation model. Calibration consists of observing if trains perform in the model in a manner similar to actual experience, and adjusting the model so that trains do not perform unreasonably different than actual experience. Unreasonable differences include trains that do not progress as quickly through their territory as occurs in actual experience, or dispatching decisions made by the model that are unreasonable to expect a human dispatcher to emulate. Accuracy includes confirmation that the model is capturing all work events, switching events, appropriate train paths, drawbridge opening patterns, and other train operating features that were obtained during the data collection.
2. No-Build Case. This case consists of freight train operations anticipated 20 years after the implementation of the proposed passenger service, or Year 2040. The purpose of the No-Build Case is to estimate the performance of freight trains absent any effects of the proposed passenger service, measured as the difference between the aggregated performance of each freight train through the modeled territory had it no delays waiting for other freight trains, and the actual performance as delayed by other trains and by drawbridge openings, and to estimate the infrastructure required, if any, to deliver this performance.
3. Build Case Alternative A and Build Case Alternative A1. These cases consist of the same freight train operations in the No-Build Case, plus the introduction of the proposed passenger services under Alternatives A and A1. The Build Cases are modeled for the same future year at the No-Build Case, 2040. The purpose of the Build Cases is to (a) estimate the infrastructure required to operate the proposed passenger trains through the modeled territory in compliance with their proposed timetables, and (b) estimate the infrastructure required to maintain the performance of the CSX freight trains as estimated by the No-Build Case.

4.6. Train Seeding and Randomization Methodology

Introduction of freight trains into the RTC model is done through a mechanism called the “train seed.” A train seed is a single regularly operated train that is fully described to that the RTC model knows its route, length, horsepower per ton, work events, crew changes, and trip plan. Each train is seeded into the operations simulation model according to its frequency of operation. For example, if the model is to simulate one calendar week, and a given train operates once daily, that train is seeded into the model seven times.

Train seeds are important because freight trains typically have broadly variable schedules. For example, a freight train may operate daily, but its departure time from its initial terminal may regularly vary by 12 hours from its nominal scheduled departure time. This variability is an inherent feature of North American freight train operation because customers variably present goods for transportation. For example, manufacturing plants may only operate on weekdays, or a ship may call at a port every 10th day, or a coal mine may only ship trainloads of coal when it receives an order for coal. Additionally, the North American railroad network inclusive of Canada and Mexico consists of nine major railroads and more then 500 regional and short line railroads, each of which have their own variability, which affects the interchange of freight cars among railroads.

Passenger trains, which do have fixed schedules, are also seeded, as passenger trains may run late due to unscheduled events such as weather, station delays boarding or alighting passengers and baggage, waiting on connecting passengers from late-arriving connecting trains or buses, or due to mechanical failures or other irregular operations.

In order to represent this variability, a randomization method is used to vary when trains are seeded into the model. The randomization used in the operation simulation model consisted of:

- When trains enter the modeled territory.
- Passenger train dwells at initial and intermediate stations (passenger train crew changes at Pensacola and Jacksonville, which occur during the station stops at those locations, were incorporated into the dwells at those stations).
- Freight train dwells at terminals where pick-ups, set-outs, crew changes, work locations. From that point forward, the model's software attempts to operate all trains in the most efficient manner possible, and to recover as much lost time as possible. The model's software does not automatically capture unplanned events that might occur post-introduction of trains into the model; such unplanned events and their effects can only be captured by intentionally perturbing the model such as through introduction of track-out-of-service events, locomotive failures, station delays, etc.
- Train acceleration and deceleration rates that reflect the train-handling variability of individual human locomotive engineers.
- Drawbridge opening events.

Randomization that would capture normally occurring disruptive events such as maintenance-of-way work, heat restrictions on maximum train speeds, or infrequent but highly disruptive events such as grade-crossing accidents, derailments, or severe weather, were not included because of lack of time.

HDR utilized the following randomization methodology:

- Freight trains arrivals into the modeled territory were randomized up to 12 hours early or 12 hours late from their trip plan, using a uniform distribution calculated from OS data provided by CSX.
- Freight train dwells at terminals, yards, or stations were established at a minimum as described in their CSX trip plan, and then randomly increased using a uniform distribution calculated from OS data provided by CSX. Train dwells for crew changes were randomized up to an additional 1.0 hours, and train dwells for work events were randomized up to an additional 1.5 hours.
- Passenger trains arrivals into the modeled territory were randomized up to 8 hours early or 8 hours late from their timetable schedule, the maximum early or late time depending upon the type of train, using a triangular distribution calculated from OS data provided by CSX.
- Passenger train dwells at stations were established at a minimum 2 minutes, except for Mobile which was established at 3 minutes, and at crew changes at Pensacola and Jacksonville, which were set at dwells contained in the proposed timetable in the Amtrak "Report for the Southern Rail Commission on Potential Gulf Coast Service Restoration Options," dated December 2015. Station dwells were randomized up to 15 minutes, using a triangular distribution.
- RTC's "Operator Handling," feature, which reflects a locomotive engineer's variation of acceleration and deceleration rates, was randomized.
- Drawbridges
    - For drawbridges for which CSX did not have drawbridge opening records, only frequency of opening, drawbridge openings were randomized uniformly over the open hours of that bridge (open hours reflect the times of day that the bridge is available to be opened for marine traffic)
    - For drawbridges, HDR computed the average number of times per day it was open, and the average number of openings per hour
    - Drawbridge opening cycles were randomized normal distribution from a 15 minute average, with a plus or minus 2 minutes.

4.7. Development and Iteration of the Modeling Cases

4.7.1. Base Case

CSX provided an RTC electronic file depicting infrastructure in the modeled territory as it existed circa 2010. This file was checked against current employee timetables and was updated to reflect current conditions. This check and update consisted of:

1. Verifying current speed limits and the beginning and ending milepost of each speed limit
2. Verifying current Method of Operation
3. Verifying milepost location of main track turnouts, turnout size, and side track configuration.
4. Verifying drawbridge locations, diamonds, and other special infrastructure conditions.
5. No infrastructure changes not reflected in current timetables were identified.
6. Inserting changes in infrastructure that had occurred since the RTC electronic infrastructure file had been created by CSX

Trains were seeded into the Base Case using OS data provided by CSX for the period May 1 to May 16, 2016. Randomizations were applied as described in Section 5.4. The Base Case was dispatched and conflicts and software errors were resolved.

The Base Case was then reviewed by dispatching the model and resolving instances where the model software did not automatically dispatch the train as efficiently as would a human dispatcher. HDR then demonstrated live animations of the model to CSX operating officers responsible for respective portions of the modeled territory. This demonstration occurred during June and July 2016 at CSX offices in Jacksonville, Florida, with remote connections to CSX operating officers located in other cities. HDR solicited information from CSX operating officers about how each train performed in the model, and obtained input from CSX such as missing work events, improved train-meet locations, and other changes that were used by HDR to improve the model's performance and accuracy. The model was then redispatched to enable CSX operating officers to view the performance of the Base Case model. CSX operating officers reviewed the redispatched Base Case model and confirmed it to be a reasonable portrayal of CSX's existing operations in the corridor.

4.7.2. No-Build Case

Freight train changes forecast to occur by Year 2040, as described in the Freight Growth Forecast (see Appendix A) were used to modify existing seeds or to construct new seeds. Train frequency (i.e., the number of times each seed would enter the model territory) was increased from the Base Case according to the freight forecast. No programmed capital improvements were added as at this time CSX has no capital improvements forecast for the territory. Randomizations were applied as described in Section 5.4.

Drawbridge open-close cycle time was increased by 5 minutes per opening to account for an anticipated increase in marine traffic. The underlying assumption is that marine traffic would tend to bunch at drawbridges. However, this assumption should be checked with marine authorities, to determine if a more reasonable pattern would be to increase the frequency of openings.

In order to accommodate freight train growth, infrastructure such as sidings and yard lead extensions was added to enable the model to be dispatchable. Once the model was observed to be dispatchable and trains operating efficiently, the model was demonstrated to CSX operating officers similar to the Base Case, and input obtained from CSX about the likely performance of future freight trains. This demonstration occurred during August 2016.

4.7.3. Build Case

The Build Case incorporates the proposed passenger trains described in Amtrak's "Report for the Southern Rail Commission on Potential Gulf Coast Service Restoration Options," dated December 2015. The passenger train schedules described in this report were modified as described in Section 5.2.3 to reflect the actual maximum speeds that the passenger trains would be authorized to travel at, for the track conditions, Method of Operation, curve speeds, and other speed restrictions that the trains would encounter between New Orleans and DeLand. The passenger trains were then seeded into the Build Case. Other than the addition of passenger trains, all other trains and infrastructure remained

identical to the No-Build Case. Randomizations were applied as described in Section 5.4. In order to accommodate the passenger trains, and to reduce undesirable affects of the passenger trains on freight train performance, infrastructure such as sidings, yard bypasses, 2nd main track, and yard lead extensions was added to enable the model to be dispatchable. Once the model was observed to be dispatchable and trains operating efficiently, the model was demonstrated to CSX operating officers similar to the Base Case, and input obtained from CSX about the likely performance of future freight trains with the incorporation of the proposed passenger trains. This demonstration occurred during August 2016.

4.7.4. Operating Metrics Captured

The following metrics were captured from the 10-day steady-state period of the No-Build and Build Cases.

FREIGHT TRAIN METRICS

Freight train delay was measured as average hours and minutes of delay per train, per 100 elapsed train-miles. This metric compares the actual elapsed time a train took to cover its route, compared to the elapsed time the train would have taken to cover its route had it encountered no delays en route, i.e. Delays en route include waits for other trains, waits for clear track ahead, waits for drawbridges, waits for signal clearances, and speed reductions caused by taking sidings or clearing in sidings or yard tracks for other trains. Delays en route do not include terminal and yard dwells or work events that are built into each freight train's trip plan. Freight train delay is captured by the RTC software using apportioned time for trains whose trip within the modeled territory began prior to the commencement of the 10-day steady-state period, or continued after the end of the 10-day steady-state period. The total delay for all freight trains is calculated as follows:

Freight Train Delay per 100 train-miles = 100 x (Total Delay of All Trains/Total Train Miles)

Freight train metrics were compared between the No-Build Case and the Build Case (see Results, Section 6.2).

PASSENGER TRAIN METRICS

Passenger train on-time performance was measured as follows:

- for long-distance trains, the elapsed time between the entry and exit to the modeled network at CP DeLand and NOT Junction (NOT Junction and CP DeLand were chosen as endpoints because at both locations, CSX trackage ends)
- for state-supported corridor trains, the elapsed time between NOT Junction and Mobile station platform.

The elapsed time was compared mathematically to the scheduled time for passenger trains to pass the entry and exit points. OTP was calculated for each seed train incorporating the late train tolerance defined in Section 5.2.4 as follows:

For New Orleans to Mobile state-supported corridor trains (target OTP = 90%)

OTP = 100 x (Actual Running Time in model + 10 minutes / Scheduled Running Time)

For New Orleans to Orlando long-distance trains (target OTP = 85%)

OTP = 100 x (Actual Running Time in model + 30 minutes / Scheduled Running Time)

Note that OTP for passenger trains was inclusive of drawbridge openings that were encountered by passenger trains en route.

An average OTP for all seeds of each passenger train type (corridor and long-distance) in the model was calculated by adding the OTP of each train seed for the type, then dividing by the number of seeds.

Additionally, average passenger train speeds were captured for the New Orleans-Orlando and New Orleans-Mobile trains, within the modeled territory.

5.0 Parameters and Assumptions of the Operations Simulation Model

Photograph 5-1.

A southbound Amtrak long-distance passenger train passes the south throat of CSX's Moncrief Yard in Jacksonville.

5.1. Parameters

5.1.1. Geographic Limits of the Model

In consultation with CSX, the following modeling limits were established in order to capture potential effects on capacity and velocity of existing and future freight and passenger operations associated with changes to infrastructure and service, both within and outside of the proposed Gulf Corridor passenger rail corridor:

- CSX Nahunta Subdivision from South Folkston, Georgia, to Dinsmore, Florida
- CSX Callahan Subdivision from Callahan, Florida, to Baldwin Tower
- CSX Sanford Subdivision between St. Johns, Florida, and control point SE DeLand, Florida
- CSX Jacksonville Terminal Subdivision between Dinsmore, Florida, and St. Johns, Florida
- CSX Jacksonville Terminal Subdivision main track from Dinsmore to Duval Connection
- CSX Jacksonville Terminal main track from Beaver Street in Jacksonville to Jacksonville Bridge
- CSX Jacksonville Terminal Subdivision SP Line between Beaver Street in Jacksonville and control point NE West Baldwin
- CSX Jacksonville Terminal Subdivision S and SM Line between Baldwin Tower and Clark Street in Baldwin, FL
- CSX Wildwood Subdivision from Clark Street in Baldwin, Florida, to a point 2 miles south of control point SE Baldwin Yard
- CSX Tallahassee Subdivision from control point NE West Baldwin to South Chattahoochee, Florida
- CSX P&A Subdivision between North Boykin Yard Limits in Chattahoochee, Florida, to South Pensacola Yard Limits
- CSX PD Subdivision between South Pensacola Yard Limits and Flomaton, Alabama
- CSX M&M Subdivision between control point NE Vera near Montgomery, Alabama, and Sibert in Mobile, Alabama
- CSX NO&M Subdivision between Sibert in Mobile, Alabama, and NOT Junction in New Orleans, Louisiana

The Gulf Coast passenger corridor also includes trackage owned by Amtrak and Norfolk Southern in New Orleans, and by Florida Department of Transportation between DeLand and Orlando. However, these sections of the corridor not owned by CSX were not included in this operations simulation analysis.

5.1.2. Implementation and Horizon Years for Service

FRA-funded passenger projects require that operations analysis (and specifically operations simulation) demonstrate that the proposed project is sufficient to increase capacity to deliver the proposed passenger rail service and accommodate growth of freight rail service in an efficient and reliable multi-modal rail corridor over a typical 20-year time horizon following the completion of the passenger project.

For the operations modeling performed in the proposed Gulf Coast passenger rail service, a project implementation year of 2020 was selected, in consultation with CSX, with a 20-year planning horizon year of 2040.

5.1.3. Time of Year Model

The trains files used in the base simulation modeling case were developed from real-time OS data provided by CSX for trains operating in the modeling limits during a two-week period between May 1, 2016 and May 14, 2016. Implementation year for passenger service was estimated to be 2020. Future year scenarios were modeled in the year 2040, using CSX-projected freight growth calculations (see Appendix A).

5.1.4. FRA Regulations that Affect Model

The model incorporates current CSX employee timetables and operating rules, which reflect current FRA regulations on track classification, maximum train speed by track classification, method of operation, etc.

5.1.5. CSX Rules and Regulations in Effect

Trains in the model adhere to current CSX operating rules and regulations, signal aspects, and braking curves. There is no preference given to which train holds a siding; however, as an operating practice (not a rule) trains longer than a siding will hold the main track while a train shorter than the siding will take the siding.

Operations and Infrastructure in the model were developed in accordance with the following CSX documents:

- Jacksonville Division Timetable No. 1, effective Thursday October 1, 2015
- Atlanta Division Timetable No. 1, effective Thursday October 1, 2015
- CSX Operating Rules, effective January 1, 2014
- CSX Safe Way rulebook, effective July 1, 2012

5.1.6. Roadway At-Grade Crossing Blockages

Standing trains in the model do not block a public at-grade roadway crossing for more than 10 minutes. Private grade crossings in the model can be blocked for up to 30 minutes by standing trains.

5.1.7. Maximum Authorized Speeds

Table 5-1 details the current maximum authorized speeds (MAS) and Method of Operation (movement authority) of each subdivision in the proposed Gulf Coast corridor.

Table 5-1. General Infrastructure Characteristics of subdivisions comprising the proposed Gulf Coast passenger corridor

Subdivision (Division)	Endpoints	Miles	MofO	Main Tracks	Passenger MAS	Draw-bridges	# of SSDG	# of CSDG
NO&M (ATL)	New Orleans-Mobile	138.5	CTC	1-2	79 mph	7	3	7
M&M (ATL)	Mobile-Flomaton	58.2	CTC	1-2	79 mph	5	4	3
PD (ATL)	Flomaton-Pensacola	37.8	TWC	1	59 mph	0	0	3
P&A (JAX)	Pensacola-Chattahoochee	165.7	TWC/YL	1	59 mph/ 20 mph	2*	0	4
Tallahassee (JAX)	Chattahoochee-Baldwin	189.5	TWC/CTC/YL	1	50 mph**/20 mph	0	4	10
Jacksonville Terminal: SP Line (JAX)	Baldwin-Jacksonville	18.0	CTC	1-2	79 mph	0	1	1
Jacksonville Terminal: A Line (JAX)	Jacksonville-St. Johns	8.8	CTC	1-2	79 mph	0	0	0
Sanford (JAX)	St. Johns-DeLand	101.4	CTC	1	79 mph	3	9	0

MofO = Method of Operation; SSDG = Signaled Siding; CSDG = Controlled Siding
Notes:
*One drawbridge on the P&A Subdivision is permanently lined and locked for train movements.
**Passenger MAS will be increased to 79 mph between Tallahassee and Baldwin as part of the proposed passenger rail service restoration.

On CSX trackage, train speeds are authorized by:

a. Rules, or
b. Special instructions, or
c. Train documents, or
d. Dispatcher messages, or
e. Form EC-1, or
f. Signal indications.

According to the current CSX operating rulebook, the following terms apply when used to authorize train speed:

a. Limited Speed: A speed not exceeding 45 mph
b. Medium Speed: A speed not exceeding 30 mph
c. Slow Speed: A speed not exceeding 15 mph
d. Restricted Speed: A speed that permits stopping within one-half the range of vision. It also permits stopping short of a train, a car, on-track equipment, an obstruction, a Stop signal, a derail, or an improperly lined switch. It permits looking out for broken rail. It is not to exceed 15 mph.

Trains using other than main or signaled tracks must move at a speed that permits stopping within one-half the range of vision, short of a train, a car, on-track equipment, an obstruction, a Stop signal, a derail, or an improperly lined switch and must not exceed:

a. 25 mph on non-signaled sidings; or
b. 15 mph when moving to and from the main track, operating through hand-operated switches not equipped with a signal; or
c. 10 mph when not moving to or from the main track, operating through hand-operated switches; or
d. 10 mph on other than main tracks or signaled tracks; or
e. 5 mph within designated locomotive service track or car shop repair track areas.

The following speeds must not be exceeded:

a. 70 mph for passenger trains with multi-level auto-racks or auto frame equipment, or
b. 59 mph for passenger trains operating within the limits of a signal suspension or against the current of traffic, or
c. 49 mph for freight trains operating within the limits of a signal suspension or against the current of traffic, or
d. 10 mph for trains operating on excepted track, or
e. Restricted speed for 15 minutes for trains that encounter an unattended burning fusee near the track, unless the fusee is beyond the first rail of an adjacent track.

5.1.8. Curve Superelevation and Unbalance

Superelevation is the height difference in inches between the high (outside) and low (inside) profile rail. Superelevation is used to counteract, or partially counteract the centrifugal force acting radially outward on a train when it is traveling along the curve. A state of equilibrium is reached when the centrifugal force acting on a train is equal to the counteracting force pulling on a train by gravity along the superelevated plane of the track.

On CSX's Jacksonville Division, curves have a maximum superelevation of 3 inches. On CSX's Atlanta Division, curves have a maximum superelevation of 4 inches. Maximum curve unbalance for freight trains is 2 inches, and maximum curve unbalance for passenger trains is 4 inches.

Where upgrade of track classification and passenger speeds are proposed for the implementation of passenger rail service, all track, signals, and superelevation will be set to freight train design standards.

5.2. Amtrak Trains Operated in the Model

5.2.1. Routes, Frequencies, Consists, Station Stops

In December 2015, Amtrak completed a feasibility study for the Southern Rail Commission entitled "Potential Gulf Coast Service Restoration Options," which identified five options for reinstating passenger rail service between New Orleans and Orlando. FRA subsequently requested that CSX perform computerized operations modeling of Alternatives A and A1 from the feasibility study to determine infrastructure needs for service implementation under each alternative.

Alternatives A and A1 consist of the following: Extend a portion of the City of New Orleans consist from New Orleans to Orlando, with (Alternative A) or without (Alternative A1) a single daily state-supported train, priced under the Passenger Rail Investment and Improvement Act, Section 209 methodology (PRIIA 209) between New Orleans and Mobile.

Figure 5-1. Proposed Gulf Coast Passenger Rail Alternatives Modeled

In its feasibility study, Amtrak prepared conceptual train schedules and consists for each option. Under Alternative A and A1, Amtrak would extend a portion of the City of New Orleans train from New Orleans through to Orlando, making intermediate station stops at Bay St. Louis, Gulfport, Biloxi, Pascagoula, Mobile, Atmore, Pensacola, Crestview, Chipley, Tallahassee, Madison, Lake City, Jacksonville, Palatka, DeLand and Winter Park. The eastbound train would depart New Orleans in the late afternoon, Mobile in the evening, Tallahassee early the next morning, Jacksonville mid-morning, and arrive into Orlando late morning. The westbound train would depart Orlando in the early afternoon, Jacksonville late afternoon, Tallahassee in the evening, Mobile early the next morning, and arrive into New Orleans mid-morning.

Under Alternative A only, Amtrak would also operate a single state-supported round-trip corridor train eastbound in the morning and westbound in the afternoon/evening between New Orleans and Mobile, on opposite-time-of-day schedules to the City of New Orleans, making intermediate station stops at Bay St. Louis, Gulfport, Biloxi, and Pascagoula. Table 5-2 presents the conceptual timetable developed for Alternatives A and A1 for stations between New Orleans and Orlando.

Table 5-2. Conceptual Schedules from Amtrak's 'Potential Gulf Coast Restoration Options' Report (December 2015)

Eastbound (Read Down)			Direction		Westbound (Read Up)	
Alternative A Only	Alternatives A and A1		Alternatives		Alternatives A and A1	Alternative A Only
New Orleans-Mobile	City of New Orleans		Train Name		City of New Orleans	Mobile-New Orleans
TBD 4	59		Train Number		58	TBD 3
Daily	Daily		Normal Days of Operation		Daily	Daily
		Mile	Station	Mile		
8:00 AM	Dp 5:00 PM	0	New Orleans, LA (CST)	767	Ar 9:30 AM	8:23 PM
9:13 AM	6:13 PM	56	Bay St. Louis, MS	711	7:47 AM	6:44 PM
9:35 AM	6:35 PM	71	Gulfport, MS	696	7:25 AM	6:22 PM
9:53 AM	6:53 PM	83	Biloxi, MS	684	7:07 AM	6:04 PM
10:17 AM	7:17 PM	103	Pascagoula, MS	664	6:43 AM	5:40 PM
11:13 AM	8:18 PM	143	Mobile, AL	624	6:03 AM	5:00 PM
	9:12 PM	188	Atmore, AL	579	4:10 AM	
	Ar 10:39 PM	247	Pensacola, FL	520	Dp 2:43 AM	
	Dp 10:45 PM	247	Pensacola, FL	520	Ar 2:37 AM	
	11:49 PM	296	Crestview, FL	471	1:33 AM	
	1:11 AM	363	Chipley, FL (CST)	404	12:11 AM	
	5:00 AM	449	Tallahassee, FL (EST)	318	11:10 PM	
	6:14 AM	505	Madison, FL	262	9:38 PM	
	7:04 AM	554	Lake City, FL	213	8:48 PM	
	Ar 8:15 AM	620	Jacksonville, FL	147	Dp 7:45 PM	
	Dp 8:31 AM	620	Jacksonville, FL	147	Ar 7:25 PM	
	9:36 AM	678	Palatka, FL	89	6:01 PM	
	10:21 AM	730	DeLand, FL	37	5:15 PM	
	11:02 AM	762	Winter Park, FL	5	4:33 PM	
	Ar 11:30 AM	767	Orlando, FL (EST)	0	Dp 4:15 PM	
03:13	*17:30*		*Total Trip Time*		*18:15*	*03:23*

The City of New Orleans extension equipment would be maintained overnight at Amtrak's Sanford, Florida, Auto Train facility. The state-supported corridor train's equipment would be maintained at Amtrak's facility in New Orleans, with contract cleaning and turnaround services provided at a new

facility in Mobile. Table 5-3 presents the consist assumptions for each train under Alternatives A and A1.

Photograph 5-2.

The proposed City of New Orleans consist would use bilevel Superliner equipment.

Alternatives A and A1 assume that the City of New Orleans would operate with one P-42 locomotive, one Superliner coach, one Superliner coach-baggage, one Superliner Cross-Country Café car, and one Superliner sleeping car would operate through from Chicago to Orlando on a year-round basis, while the rest of the consist would turn at New Orleans. On some peak dates, however, an additional coach and/or the transition sleeping car from the City of New Orleans might also operate through in order to capture all ridership demand and revenue. The state-supported corridor round trip would operate with one P-42 locomotive, two Horizon coaches, and a Horizon Club Dinette (offering both food service and Business Class) in dedicated Gulf Coast service.

Table 5-3. Amtrak Alternative A/A1 Consist Proposal

Equipment Type	Units per Trainset
City of New Orleans extension	
P-42 Diesel Locomotive	1
Superliner Coach (see Note below)	1*
Superliner Cross-Country Café	1
Superliner Sleeper	1
Superliner Coach-Baggage	1

Equipment Type	Units per Trainset
Superliner Transition Sleeper (see Note)	*
State-Supported Corridor Train (Not included in Alternative A1)	
P-42 Diesel Locomotive	1
Horizon Coach	2
Horizon or Amfleet I Club Dinette	1

Note: City of New Orleans trainset will run with a second Superliner Coach or a Transition Sleeper on demand during peak season.

5.2.2. Consist Development in the Model for Passenger Train Operations

To simulate the proposed passenger trains operations in the corridor, train consists and timetables were developed. Trains consists were based on the conceptual equipment consists used by Amtrak in its “Gulf Coast Service Restoration Options” feasibility study. Table 5-4 details the proposed train consists modeled.

Table 5-4. Proposed Amtrak Alternative A/A1 Consists Modeled

Equipment Type	Units per Trainset
City of New Orleans extension	
P-42 Diesel Locomotive	1
Superliner Coach (see Note below)	1
Superliner Cross-Country Café	1
Superliner Sleeper	1
Superliner Coach-Baggage	1
Superliner Transition Sleeper (see Note)	1
Patrons On Board	200
Train Weight	541 tons
Train Length	495 feet
HP/ton	7.12
State-Supported Corridor Train (Not included in Alternative A1)	
P-42 Diesel Locomotive	1
Horizon Coach	2
Horizon or Amfleet I Club Dinette	1
Patrons On Board	80
Train Weight	312 tons
Train Length	325 feet

Equipment Type	Units per Trainset
HP/ton	12.34

Note: Amtrak's study indicates that the train will operate with a second Superliner Coach or Transition Sleeper On Demand during peak season. To account for these consist variations, the 5-car City of New Orleans consist detailed above was modeled, representing the highest travel demand conditions.

5.2.3. Timetable Consist Development in the Model for Passenger Train Operations

Once the consists were determined, running time estimates were made using the Train Performance Calculator (TPC) feature of the Rail Traffic Controller (RTC) operations simulation model. The calculations determined unimpeded running times over the train's route between New Orleans and DeLand, based on existing passenger train speeds and track alignments as published in CSX employee timetables in effect at the time of the study. The following assumptions and inputs were used in creating and running the models:

1. Passenger train speed limits posted in current CSX employee timetables were input into the model.
2. Eastbound and westbound runs were recorded.
3. A one second dwell time was used for modeling all station stops.
4. No recovery time was added to any of the schedules.
5. Existing permanent speed restrictions, i.e., yard limit locations and civil speed restrictions not strictly related to curvature were retained in the cases.

Using the running times estimated in the model, conceptual timetables were developed for each passenger train. The following assumptions and inputs were used in creating the timetables:

- The location of station stops would match those indicated for the trains in the conceptual schedules for Alternatives A and A1 noted in Amtrak's Gulf Coast Service Restoration feasibility study
- Trains arrival and departure times at New Orleans would match as closely as possible those in the conceptual schedules for Alternatives A and A1 in the Amtrak Gulf Coast study
- A 2-minute dwell time was used for all station stops except Mobile and Tallahassee where a 4- or 5-minute dwell time was used
- Additional dwell was allotted at Pensacola and Jacksonville for crew changes and locomotive refueling, using identical dwell times to those indicated in Amtrak's Gulf Coast Service Restoration option study
- Departure times at intermediate stations would match as closely as possible those in the conceptual schedules for Alternatives A and A1 in the Amtrak Gulf Coast study where TPC estimates indicate it is reasonable to do so
- Recovery time was added to the schedules at percentages that mirrored the recovery time presumed to be built into the conceptual timetables for Alternatives A and A1 in the Amtrak Gulf Coast study.

Using the above assumptions as a guide, the following initial timetables were developed. Table 5-5 and Table 5-6 show how timetables were developed for the state-supported corridor round trip, using the TPC calculations as a starting point. Abbreviations for the columns in Table 5-5 and subsequent tables are as follows:

- RR = Host railroad
- MI = Miles
- TPC = TPC calculation of pure running time
- RUN = Run time used for timetable
- REC = Recovery time
- ADJ = Adjustments to schedule for meet/pass or other events
- DWL = Station dwell time
- ARR = Arrival time
- DEP = Departure time
- AMT = Time from Amtrak feasibility study

Table 5-5 shows the TPC-calculation and proposed HDR-adjusted timetable for eastbound state-supported corridor train (identified as GC4 in the Amtrak feasibility study, but identified below as train No. 24).

Table 5-5. TPC Calculations and Proposed Timetable for Eastbound State-Supported Train 24

RR	MI	TPC	RUN	REC	ADJ	DWL	ARR	DEP	STATION	AMT
AMT	0							08:00	New Orleans	08:00
NS	4		12	1	1	0	08:14	08:14	East City Jct.	
CSX	4		8	1	1	0	08:24	08:24	NOT Jct.	
CSX	49	47:03	47	0	0	2	09:11	09:13	Bay St. Louis	09:13
CSX	15	19:18	20	0	0	2	09:33	09:35	Gulfport	09:35
CSX	12	15:29	16	0	0	2	09:51	09:53	Biloxi	09:53
CSX	20	19:40	20	2	0	2	10:15	10:17	Pascagoula	10:17
CSX	40	37:33	38	18	0	0	11:13		Mobile	11:13
								03:13	*Total Trip Time*	*03:13*
								44.7 mph	*Average speed*	*44.7 mph*
	144		*161*	*22*	*2*	*8*		*193*	*Totals*	*193*

Notes on timetable for Train 24

1. A 1-minute schedule adjustment was added at East City Jct. for receipt of new movement authority owing to change in host railroad.
2. A 1-minute schedule adjustment was added at NOT Jct. for receipt of new movement authority owing to change in host railroad.
3. Used Amtrak-proposed recovery times of 22 minutes (13% of 161 minutes PRT)
4. Train 24 will pass train 58 on double track west of Michoud interlocking

Table 5-6 shows the westbound state-supported corridor train identified as GC3 in the Amtrak feasibility, but herein identified as train No. 23.

Table 5-6. TPC Calculations and Proposed Timetable for Westbound State-Supported Train 23

RR	MI	TPC	RUN	REC	ADJ	DWL	ARR	DEP	STATION	AMT
CSX	0							17:00	Mobile	17:00
CSX	40	36:21	37	1	0	2	17:38	17:40	Pascagoula	17:40
CSX	20	21:24	22	0	0	2	18:02	18:04	Biloxi	18:04
CSX	12	14:46	15	1	0	2	18:20	18:22	Gulfport	18:22
CSX	15	19:21	20	0	0	2	18:42	18:44	Bay St. Louis	18:44
NS	49	46:35	47	18	1	0	19:50	19:50	NOT Jct.	
AMT	4		7	1	1	0	19:59	19:59	East City Jct.	
AMT	4		12	11	1	0	20:23		New Orleans	20:23
								03:23	*Total Trip Time*	*03:23*
								42.6 mph	*Average speed*	*42.6 mph*
	144		*160*	*32*	*3*	*8*		*203*	*Totals*	*203*

Notes on timetable for Train 23

1. TPC running times match Amtrak's proposed schedule, but a siding meet with train 59 would add 25 minutes of delay. See below
2. A 1-minute schedule adjustment was added at NOT Jct. for receipt of new movement authority owing to change in host railroad
3. A 1-minute schedule adjustment was added at East City Jct. for receipt of new movement authority owing to change in host railroad
4. Used Amtrak-proposed recovery times of 32 minutes (20% of 160 minutes PRT)

Amtrak's feasibility study called for the state-supported corridor train to operate on an opposite-time-of-day schedule with the City of New Orleans extension. As a result, meets between passenger trains were analyzed for feasibility on the single-track NO&M Subdivision. It was determined that the schedule of the morning eastbound corridor train would provide for a meet with the westbound City of New Orleans on the double-track section of the NO&M Subdivision east of Gentilly Yard. However, the projected schedule of the afternoon westbound corridor train would require a meet to occur with eastbound long-distance train 59 on single track between Bay St. Louis and Gulfport. To perform this meet on the proposed Amtrak train schedules, train 59 would have to be held at Harbin siding for approximately 20 minutes to wait for train 23, or alternatively train 23 would have to be held for approximately 40 minutes at Beauvoir siding east of Gulfport to wait for train 59 to pass. Rather than introduce an extended wait at a siding for passenger trains into the timetable, an alternative was developed whereby train 23's schedule would be shifted, so that it departs Mobile 15 minutes earlier than the time in the Amtrak feasibility study. Doing so would allow for a better meet of passenger trains at Harbin siding and a shorter hold time at Harbin for train 23. Table 5-7 presents the revised timetable used in the model.

Table 5-7. TPC Calculations and Potential HDR-Adjusted Timetable for Siding Meet for Westbound State-Supported Train 23

RR	MI	TPC	RUN	REC	ADJ	DWL	ARR	DEP	STATION	AMT
CSX	0							16:45	Mobile	17:00
CSX	40	36:21	37	1	0	2	17:23	17:25	Pascagoula	17:40
CSX	20	21:24	22	0	0	2	17:47	17:49	Biloxi	18:04
CSX	12	14:46	15	1	0	2	18:05	18:07	Gulfport	18:22
CSX	15	19:21	20	0	10	2	18:37	18:39	Bay St. Louis	18:44
NS	49	46:35	47	18	1	0	19:45	19:45	NOT Jct.	
AMT	4		7	1	1	0	19:54	19:54	East City Jct.	
AMT	4		12	11	1	0	20:18		New Orleans	20:23
								03:33	*Total Trip Time*	*03:23*
								40.6 mph	*Average speed*	*42.6 mph*
	144		*160*	*32*	*13*	*8*		*213*	*Totals*	*203*

Notes on adjusted timetable for Train 23:

1. Includes a 10-minute schedule adjustment between Gulfport and Bay St. Louis for meet with train 59 at Harbin siding

2. A 1-minute schedule adjustment was added at NOT Jct. for receipt of new movement authority owing to change in host railroad
3. A 1-minute schedule adjustment was added at East City Jct. for receipt of new movement authority owing to change in host railroad
4. Used Amtrak-proposed recovery times of 32 minutes (20% of 160 minutes PRT)

Table 5-8 and Table 5-9 present the HDR-adjusted timetables developed for the City of New Orleans extension operating between New Orleans and DeLand, based on the TPC calculations. Between New Orleans and Pensacola, the travel times of the trains were able to match fairly closely those in the conceptual timetables developed by Amtrak in its Gulf Coast feasibility study. However, between Pensacola and DeLand, the TPC calculations produced running times far slower than those proposed by Amtrak in its Gulf Coast study.

The total trip times between New Orleans and Orlando based on the TPC models produced timetables with travel times that were slower than those in the conceptual Amtrak timetables by 55 minutes for westbound train No. 58 and by 1 hour and 16 minutes for eastbound train No. 59.

Table 5-8. TPC Calculations and Proposed HDR-Adjusted Timetable for Westbound City of New Orleans Extension Train 58

RR	MI	TPC	RUN	REC	ADJ	DWL	ARR	DEP	STATION	AMT
CFR								15:20	Orlando	16:15
CFR	5		16	0	0	2	15:36	15:38	Winter Park	16:33
CFR	32		40	0	0	2	16:18	16:20	DeLand	17:15
CSX	0		1	0	0	0	16:21	16:21	SE Deland (CSX)	
CSX	52	45:32	46	0	0	2	17:07	17:09	Palatka	18:01
CSX	59	1:05:37	1:06	0	6	0	18:21	18:21	Grand Jct. (wye)	
CSX	1	05:51	0	15	6	20	18:42	19:02	Jacksonville (shove from Grand Jct. into station)	19:25-19:45
CSX	62	1:01:11	1:01	0	0	2	20:03	20:05	Lake City	20:48
CSX	50	48:00	48	0	0	2	20:53	20:55	Madison	21:38
CSX	55	1:11:20	1:12	17	0	5	22:24 ET 21:24 CT	22:29ET 21:29CT	Tallahassee	23:10ET 22:10CT
CSX	87	2:16:44	2:17	0	0	2	23:46	23:48	Chipley-CT	00:11
CSX	66	1:35:10	1:35	0	0	2	01:23	01:25	Crestview	01:33
CSX	50	1:02:32	1:03	20	0	6	02:48	02:54	Pensacola	02:43
CSX	59	1:27:29	1:28	0	0	2	04:22	04:24	Atmore	04:10

RR	MI	TPC	RUN	REC	ADJ	DWL	ARR	DEP	STATION	AMT
CSX	45	53:27	54	36	0	5	05:54	05:59	Mobile	06:03
CSX	40	36:55	37	1	0	2	06:37	06:39	Pascagoula	06:43
CSX	20	23:44	24	0	0	2	07:03	07:05	Biloxi	07:07
CSX	12	14:53	15	1	0	2	07:21	07:23	Gulfport	07:25
CSX	15	19:48	20	0	0	2	07:43	07:45	Bay St. Louis	07:47
NS	49	49:38	50	20	1	0	08:56	08:56	NOT Jct.	
AMT	4		7	1	1	0	09:05	09:05	East City Jct.	
AMT	4		23	1	1	0	09:30		New Orleans	09:30
								19:10	*Total Trip Time*	*18:15*
								40.0 mph	*Average speed*	*42.0 mph*
	767		*963*	*112*	*15*	*60*		*1,150*	*Totals*	*1,095*

Notes on timetable for Train 58:

1. DeLand-Palatka: Travel time is 3 minutes slower than proposed Amtrak travel time
2. Jacksonville: Schedule adjustment of 12 minutes added to account for wyeing of train at Grand Junction and shove into Jacksonville Amtrak station
3. Palatka-Jacksonville: Added 15 minutes of recovery time (which is 13% of 112 minutes PRT, DeLand-Jacksonville). Total travel time, Palatka-Jacksonville, is 9 minutes slower than proposed Amtrak timetable
4. Jacksonville: Dwell time of 20 minutes matches proposed Amtrak timetable
5. Jacksonville-Lake City: Travel time is same as proposed Amtrak timetable
6. Lake City-Madison: Travel time is same as proposed Amtrak timetable
7. Jacksonville-Tallahassee: Added 17 minutes of recovery time (which is 9.5% of 181 minutes of PRT). Proposed Amtrak timetable appears to have added 15 minutes of recovery time, assuming a 5-minute dwell at Tallahassee and a comparison of Amtrak's proposed eastbound and westbound train schedules. Resulting Madison-Tallahassee travel time is 2 minutes slower than proposed Amtrak timetable
8. Tallahassee-Chipley: Travel time is 18 minutes slower than proposed Amtrak timetable travel time
9. Schedule assumes construction of a new siding at DeFuniak Springs between Chipley and Crestview for trains 58 and 59 to meet.
10. Chipley-Crestview: Travel time is 15 minutes slower than proposed Amtrak timetable
11. Crestview-Pensacola: Crestview-Pensacola: Travel time before recovery time is 1 minute faster than Amtrak timetable
12. Pensacola: Used Amtrak-recommended 6 minute dwell for crew change
13. Pensacola-Atmore: Travel time is 3 minutes slower than proposed Amtrak timetable
14. Atmore-Mobile: Travel time is 2 minutes slower than proposed Amtrak timetable

15. Recovery time, Tallahassee-Mobile: Used presumed Amtrak-proposed recovery time of 56 minutes (which is 13% of 437 minutes of PRT)
16. Pascagoula-Biloxi: Travel time is 2 minutes slower than proposed Amtrak timetable
17. Train 58 will pass train 24 on double main track between Chef Menteur and Gentilly Yard
18. Bay St. Louis-New Orleans: Travel time is 2 minutes slower than proposed Amtrak timetable
19. Recovery time, Mobile-New Orleans: Used presumed Amtrak-proposed recovery time of 24 minutes (which is 13.5% of 176 minutes PRT)
20. A 1-minute schedule adjustment was added at NOT Jct. for receipt of new movement authority owing to change in host railroad.
21. A 1-minute schedule adjustment was added at East City Jct. for receipt of new movement authority owing to change in host railroad.
22. East City Jct.-New Orleans: Running time extended 11 minutes to account for wyeing of train prior to arrival.
23. Schedules derived from TPC calculations estimate a required addition of 55 minutes of travel time, representing the differences in total trip time seen in the last row of the table (19:10 versus 18:15). Travel time is 1 minute longer New Orleans-Mobile, 43 minutes longer New Orleans-Jacksonville, and 55 minutes longer New Orleans-Orlando.
24. Total recovery time of 112 minutes is 11.6% of total running time of 963 minutes.

Table 5-9. TPC Calculations and Proposed HDR-Adjusted Timetable for Eastbound City of New Orleans Extension Train 59

RR	MI	TPC	RUN	REC	ADJ	DWL	ARR	DEP	STATION	AMT
AMT	0							17:00	New Orleans	17:00
NS	4		12	1	1	0	17:14	17:14	East City Jct.	
CSX	4		8	1	1	0	17:24	17:24	NOT Jct.	
CSX	49	51:32	52	0	0	2	18:16	18:18	Bay St. Louis	18:13
CSX	15	19:33	20	0	0	2	18:38	18:40	Gulfport	18:35
CSX	12	16:00	16	0	0	2	18:56	18:58	Biloxi	18:53
CSX	20	21:29	22	2	0	2	19:22	19:24	Pascagoula	19:17
CSX	40	36:49	37	18	0	5	20:19	20:24	Mobile	20:18
CSX	45	54:00	54	0	0	2	21:18	21:20	Atmore	21:12
CSX	59	1:28:37	1:29	16	0	6	23:05	23:11	Pensacola	22:45
CSX	50	1:02:07	1:02	0	0	2	00:13	00:15	Crestview	23:49
CSX	66	1:33:34	1:34	0	0	2	01:49	01:51	Chipley-CT	01:11
CSX	87	2:17:35	2:18	32	0	4	04:41 CT 05:41 ET	04:45CT 05:45ET	Tallahassee-ET	04:00CT 05:00ET
CSX	55	1:08:51	1:09	0	0	2	06:54	06:56	Madison	06:14
CSX	50	48:10	48	0	0	2	07:44	07:46	Lake City	07:04

RR	MI	TPC	RUN	REC	ADJ	DWL	ARR	DEP	STATION	AMT
CSX	62	59:01	59	0	6	0	08:51	08:51	Grand Jct. (wye)	
CSX	1	05:44		17	6	16	09:14	09:30	Jacksonville (shove from Grand Jct. into station)	08:15-08:31
CSX	59	1:05:37	1:06	0	0	2	10:36	10:38	Palatka	09:36
CFC	52	46:11	46	10	0	0	11:34	11:34	Del-CSX	
CFC	0		1	0	0	2	11:35	11:37	DeLand	10:21
CFC	32		39	0	0	2	12:16	12:18	Winter Park	11:02
CFC	5		16	12	0	0	12:46		Orlando	11:30
								18:46	*Total Trip Time*	*17:30*
								40.9 mph	*Average speed*	*43.8 mph*
	767		*948*	*109*	*14*	*55*		*1,126*	*Totals*	*1,050*

Notes on timetable for Train 59:

1. A 1 minute schedule adjustment was added at East City Jct. for receipt of new movement authority owing to change in host railroad
2. A 1 minute schedule adjustment was added at NOT Jct. for receipt of new movement authority owing to change in host railroad
3. Travel time between New Orleans and Bay St. Louis is 5 minutes slower than proposed Amtrak timetable
4. Travel time between Biloxi and Pascagoula is 2 minutes slower than proposed Amtrak timetable
5. New Orleans-Mobile: Used presumed Amtrak-proposed recovery time of 22 minutes (which is 13% of 167 minutes PRT)
6. Mobile-Atmore: Travel time is 2 minutes slower than proposed Amtrak timetable
7. Atmore-Pensacola: Travel time is 2 minutes slower than proposed Amtrak timetable without recovery time.
8. Mobile-Tallahassee: Added recovery time of 11% (48 minutes of recovery time, which represents 11% of 437 minutes PRT), which is similar to presumed Amtrak-proposed recovery time percentage of 11% (presumed to be 45 minutes of recovery on 400 minutes PRT). Amtrak timetable added all at Tallahassee; this schedule divides it with 16 minutes recovery time at Pensacola and 32 minutes recovery time at Tallahassee
9. Pensacola: Used same 6 minute dwell proposed in Amtrak timetable for crew change
10. Pensacola-Crestview: Same travel time as Amtrak timetable
11. Crestview-Chipley: Travel time is 14 minutes slower than proposed Amtrak timetable
12. Schedule assumes construction of a new siding at DeFuniak Springs between Crestview and Chipley for trains 59 and 58 to meet.
13. Chipley-Tallahassee: Travel time is 19 minutes slower than proposed Amtrak timetable

14. Tallahassee-Madison: Travel time is 3 minutes faster than proposed Amtrak timetable
15. Madison-Lake City: Travel time matches proposed Amtrak travel time
16. Jacksonville: Schedule adjustment of 12 minutes added to account for wyeing of train at Grand Junction and shove into Jacksonville Amtrak station
17. Jacksonville: Recovery time of 17 minutes added (9.5% of 176 minutes PRT, Tallahassee-Jacksonville). Amtrak appears to have added 10 minutes of either wye time or recovery time, Tallahassee-Jacksonville
18. Jacksonville-Palatka: Travel time is 3 minutes slower than proposed Amtrak timetable
19. Palatka-DeLand: Travel time is approximately 4 minutes slower than proposed Amtrak timetable
20. Palatka-DeLand: Recovery time of 10 minutes added (9% of 112 minutes Pure Running Time, Jacksonville-DeLand)
21. Schedules derived from TPC calculations estimate a required addition of approximately 47 minutes of running time, 17 minutes of recovery time, and , 12 minutes of scheduled adjustment time, representing the difference in total trip time seen in the last row of the table (18:46 versus 17:30) . Travel time is 6 minutes longer New Orleans-Mobile, 59 minutes longer New Orleans-Jacksonville, and 76 minutes longer New Orleans-Orlando.
22. Total recovery time of 109 minutes is 11% of total running time of 948 minutes.

It is unclear why the conceptual Amtrak timetables differ from the travel times derived from the computer-based TPC estimates, or what the trip times in the proposed Amtrak feasibility study timetables were based on. For example, the total trip time proposed for southbound/eastbound train No. 59 between New Orleans and Orlando was 17 hours, 30 minutes, which is a faster trip than any previous scheduled Sunset Limited trip time.

A look at historic Amtrak travel times between New Orleans and Orlando indicate that in certain years, Amtrak's Sunset Limited had travel times that matched or exceeded those derived from the TPC calculations. Table 5-10 presents a comparison of Amtrak's scheduled travel times in the Gulf Coast corridor between New Orleans and Orlando for the years 1984 through 2005.

Table 5-10. Historic Amtrak Gulf Coast Passenger Train Travel Times Compared with Proposed Timetables

Direction	East	West	East	West
Endpoints	New Orleans-Mobile	Mobile-New Orleans	New Orleans-Orlando	Orlando-New Orleans
HDR-adjusted TPC-derived travel time for state-supported Gulf Coast Corridor train (2016)	03:13	03:33	n/a	n/a
Amtrak proposed travel time for state-supported Gulf Coast Corridor (2016)	03:13	03:23	n/a	n/a
Gulf Coast Ltd.: 10/28/1984	03:35	03:40	n/a	n/a
Gulf Coast Ltd.: 11/10/1996	03:10	03:15	n/a	n/a
HDR-adjusted TPC-derived travel time for City of New Orleans	03:18	03:27	18:46	19:10

Direction	East	West	East	West
extension (2016)				
Amtrak-proposed travel time for City of New Orleans extension (2016)	03:18	03:27	17:30	18:15
Sunset Ltd.: 05/02/1993 – First timetable	03:00	03:20	17:50	17:07
Sunset Ltd.: 04/14/1996 – Last Miami terminating run	03:01	04:16	17:40	18:32
Sunset Ltd.: 11/10/1996 – First Sanford terminating run	03:16	04:05	n/a	n/a
Sunset Ltd.: 10/26/1997 – First Orlando terminating run	03:16	05:01	18:05	19:25
Sunset Ltd.: 05/21/2000	03:05	04:36	18:15	18:55
Sunset Ltd.: 04/29/2001 – First lengthened schedule	03:50	05:10	21:15	19:05
Sunset Ltd.: 10/29/2001 – Lengthened schedule with congestion advisory	03:55	05:05	21:30	21:20
Sunset Ltd.: 04/29/2005 – Final schedule	03:50	05:51	21:15	20:35

Source: Amtrak system timetables for month and year noted

For more than 8 years of the Sunset Limited's 12-year operation east of New Orleans, the train operated under scheduled travel times that were slower than those projected for Alternatives A and A1 in the Amtrak Gulf Coast feasibility study.

Based on the TPC estimates and schedule development assumptions discussed, Table 5-11 presents the revised passenger train timetables that were modeled.

Table 5-11. Proposed Amtrak Gulf Coast Passenger Timetables Based on Computer-Simulated TPC Running Times

Eastbound (Read Down)			Direction		Westbound (Read Up)	
Alternative A Only	Alternatives A and A1		Alternatives		Alternatives A and A1	Alternative A Only
New Orleans-Mobile	City of New Orleans		Train Name		City of New Orleans	Mobile-New Orleans
24	59		Train Number		58	23
Daily	Daily		Normal Days of Operation		Daily	Daily
		Mile	Station	Mile		

Eastbound (Read Down)		Direction			Westbound (Read Up)	
8:00 AM	Dp 5:00 PM	0	New Orleans, LA (CST)	767	Ar 9:30 AM	8:18 PM
8:14 AM	*5:14 PM*	*4*	*East City Jct. (NS) (no station stop)*	*763*	*9:05 AM*	*7:54 PM*
8:24 AM	*5:24 PM*	*8*	*NOT Junction (CSX) (no station stop)*	*759*	*8:56 AM*	*7:45 PM*
9:13 AM	6:18 PM	57	Bay St. Louis, MS	710	7:45 AM	6:39 PM
9:21 AM	*6:26 PM*	*66*	*Harbin siding, MS (no station stop)*	*701*	*7:35 AM*	*6:19-6:29 PM*
9:35 AM	6:40 PM	72	Gulfport, MS	695	7:23 AM	6:07 PM
9:53 AM	6:58 PM	84	Biloxi, MS	683	7:05 AM	5:49 PM
10:17 AM	7:24 PM	104	Pascagoula, MS	663	6:39 AM	5:25 PM
11:13 AM	Ar 8:19 PM	144	Mobile, AL	623	Dp 5:59 AM	4:45 PM
	Dp 8:24 PM	144	Mobile, AL	623	Ar 5:54 AM	
	9:20 PM	189	Atmore, AL	578	4:24 AM	
	Ar 11:05 PM	248	Pensacola, FL	519	Dp 2:54 AM	
	Dp 11:11 PM	248	Pensacola, FL	519	Ar 2:48 AM	
	12:15 AM	298	Crestview, FL	469	1:25 AM	
	12:49 AM	*325*	*DeFuniak Springs siding, FL (no station stop)*	*442*	*12:50 AM*	
	1:51 AM	364	Chipley, FL (CST)	403	11:48 PM	
	Ar 5:41 AM	451	Tallahassee, FL (EST)	316	Dp 10:29 PM	
	Dp 5:45 AM	451	Tallahassee, FL	316	Ar 10:24 PM	
	6:56 AM	506	Madison, FL	261	8:55 PM	
	7:46 AM	556	Lake City, FL	211	8:05 PM	
	8:51 AM	*618*	*Grand Jct. wye (no station stop)*			
	Ar 9:14 AM	619	Jacksonville, FL	149	Dp 7:02 PM	
	Dp 9:30 AM	619	Jacksonville, FL	149	Ar 6:42 PM	
			Grand Jct. wye (no station stop)	*148*	*6:21 PM*	
	10:38 AM	678	Palatka, FL	89	5:09 PM	
	11:34 AM	*730*	*SE DeLand (CSX) (no station stop)*	*37*	*4:21 PM*	
	11:37 AM	730	DeLand, FL	37	4:20 PM	
	12:18 PM	762	Winter Park, FL	5	3:38 PM	

Eastbound (Read Down)			Direction		Westbound (Read Up)	
	Ar 12:46 PM	767	Orlando, FL (EST)	0	Dp 3:20 PM	
03:13	*18:46*		*Total Trip Time*		*19:10*	*03:33*

5.2.4. Passenger Train On-Time Metrics

On-Time Performance (OTP) of passenger trains in the model will be measured using the Metrics and Standards for intercity passenger rail service developed by FRA and Amtrak in accordance with Section 207 of the Passenger Rail Investment and Improvement Act (PRIIA). On-time performance metrics differ depending on the type of train being operated. Two different types of trains are proposed to operate in the Gulf Coast corridor under Alternative A, with on-time performance requirements as follows:

- New Orleans to Mobile state-supported corridor train: On-time performance of 90%, with "on time" defined as arriving within 10 minutes of schedule at the endpoint terminal, according to the metrics for a corridor train of less than 250 miles.
- City of New Orleans extension: On-time performance of 85%, with "on time" defined as arriving within 30 minutes of schedule at the endpoint terminal, according to the metrics for a long-distance train with a route of more than 550 miles.

For both services above, at intermediate stations, trains are measured as “late” if they depart 15 minutes or more behind schedule.

The U.S. Surface Transportation Board rule July 28, 2016 (STB Docket Number EP-726), requiring OTP to be measured station-by-station, instead of at final terminal only, effective August 26, 2016, was not incorporated into the model methodology or parameters because of lack of time.

5.2.5. Drawbridge Openings

Drawbridge openings were determined based on a compilation of data provided by CSX bridge tenders. At all bridges, marine traffic has precedence at each drawbridge unless an immediate bridge opening would create an unsafe operating condition for the railroad.

5.3. Assumptions

Photograph 5-3.

Claiborne siding is one of the few signaled sidings (SSDG) currently on the NO&M Subdivision. Infrastructure improvements proposed to support implementation of passenger rail service will include the construction of new signaled sidings and the extension and signalization of existing sidings that are unsignaled or of insufficient length to accommodate typically operated freight trains.

5.3.1. Regulations and Rules Affecting Future Train Performance

For operations simulation cases modeled in the 2020 Implementation Year and 2040 Horizon Year, trains in the model are assumed to adhere to FRA and CSX operating regulations and rules in effect in 2016, and that these regulations and rules will not be changed in any way that would reduce maximum operating speeds, acceleration and braking curves, train lengths, train dwells, or other parameters of freight train and passenger train trip time and over-the-road performance. Passenger and freight train performance acceleration, braking, unbalance, and maximum speed limit characteristics in the 2020 and 2040 cases are assumed to be the same as today.

Passenger train on-time performance requirements are assumed to be identical to those in effect today, including the no-time performance metrics developed by FRA and Amtrak in accordance with Section 207 of the Passenger Rail Improvement and Investment Act. The recent U.S. Surface Transportation Board rule decided on July 28, 2016, (STB Docket Number EP-726), requiring OTP to be measured

station-by-station, instead of at final terminal only, is not incorporated into the rules and regulations assumptions for this study.

5.3.2. Freight Train Growth Characteristics

Appendix A details assumptions for freight train growth. To determine freight growth from 2016 to 2020 and ultimately to 2040, the USDOT's Freight Analysis Framework (FAF) data was used. To forecast the growth rate for this corridor, the ton-miles for the states CSX operates in was used to determine growth by train type. The crucial assumptions in this freight forecast methodology is that freight growth statewide will be uniformly distributed throughout the state, its distribution by mode will be in similar proportion to today, and that shippers will be willing and able to pay similar freight rates in the future adjusted for inflation as they do today. These assumptions are reflected accordingly in the forecasted growth of CSX freight traffic operating through these states. It is assumed that existing trains will remain the same size. For the future growth traffic, the average lengths and tonnages along with standard deviations were calculated based on existing traffic of that type.

Table 5-12 details the freight train frequency of each type of train that CSX operates, on each of the line segments of the proposed Gulf Coast corridor. Actual freight train frequency is shown for year 2016, and forecasted freight train frequencies for years 2020 and 2040.

Table 5-12. Freight Trains per day by Line Segment in the Proposed Gulf Coast Corridor

	Trains per Day													
	Jacksonville - Baldwin	Baldwin - Tallahassee	Tallahassee - Chattahoochee	Chattahoochee - Pensacola	Flomaton - Pensacola	Montgomery - Flomaton	Flomaton - Mobile	Mobile - New Orleans	Folkston - Callahan	Callahan - Jacksonville	Jacksonville - Bostwick	Bostwick - Deland	Callahan - Baldwin	Baldwin to Wannee Jct
2016														
Automotive	1	0	0	0	0	0	0	0	4	1	0	0	3	3
Bulk	0	1	1	1	1	1	1	1	5	0	0	0	5	4
Coal	1	2	2	2	2	4	2	0	1	0	2	0	1	1
Grain	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intermodal	8	1	1	1	1	1	2	2	15	14	0	0	1	6
Merchandise	1	3	3	3	4	7	8	8	14	6	2	2	8	7
Total	11	7	7	7	8	13	13	11	39	21	4	2	18	21

	Trains per Day													
	Jacksonville - Baldwin	Baldwin - Tallahassee	Tallahassee - Chattahoochee	Chattahoochee - Pensacola	Flomaton - Pensacola	Montgomery - Flomaton	Flomaton - Mobile	Mobile - New Orleans	Folkston - Callahan	Callahan - Jacksonville	Jacksonville - Bostwick	Bostwick - Deland	Callahan - Baldwin	Baldwin to Wannee Jct
2020														
Automotive	1	0	0	0	0	0	0	0	5	1	0	0	3	3
Bulk	0	1	1	1	1	1	1	1	6	1	0	0	6	5
Coal	1	2	2	2	2	4	2	0	1	0	2	0	1	1
Grain	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Intermodal	9	1	1	1	1	1	2	2	17	16	0	0	1	7
Merchandise	1	3	3	3	4	8	9	9	15	6	2	2	9	7
Total	12	7	7	7	8	14	14	12	45	24	4	2	21	23
2040														
Automotive	1	0	0	0	0	0	0	0	7	2	1	1	5	5
Bulk	0	1	1	1	2	2	2	1	9	1	0	0	8	7
Coal	1	2	2	2	2	4	2	0	1	0	2	0	1	1
Grain	1	1	0	0	0	0	0	0	1	0	0	0	1	0
Intermodal	16	2	3	3	3	2	4	4	30	29	0	0	2	12
Merchandise	2	4	4	4	6	11	13	12	21	9	2	2	12	10
Total	21	10	10	10	13	19	21	17	69	41	5	3	29	35

5.3.3. Drawbridge Openings

The number of drawbridge open-close cycles per day in the year 2020 and 2040 cases remained the same as the number of drawbridge open-close cycles in the Base Case. However, the duration of each open-close cycle in the year 2040 case was extended by up to 5 minutes per opening to account for an increase in marine traffic. The assumption is that marine traffic will bunch at drawbridges and move through the open drawbridge in groups, rather than additional opening frequencies. However, this assumption should be checked with marine authorities, to determine if a more reasonable pattern would be to increase the frequency of open-close cycles, and if so, what the likely distribution of open-close

cycles would be during a typical weekday and weekend day; or, if increasing the open-close cycle time by 5 minutes is sufficient.

5.3.4. Infrastructure Assumed at Implementation and Horizon Year

To support the implementation of on-time passenger rail service and accommodate anticipated freight train growth through 2040, a set of proposed infrastructure projects were input into the model. Infrastructure changes were made to each subdivision as detailed below. Infrastructure added to the No-Build and the Alternative A and A1 Build Cases was schematically diagrammed by HDR to achieve the desired operational performance from the perspective of the least total amount of infrastructure possible (i.e., least track-miles). These diagrams (as detailed in Appendix B) were provided to CSX for its cost-estimate purposes. Infrastructure schematically identified by HDR was not assessed by HDR or CSX for its constructability, least cost, or engineering feasibility. It was assumed by HDR that right-of-way that would be required by the proposed infrastructure would be available, and that the projects would be constructible and feasible from an engineering, environmental impact and permitting perspective. It is likely that this schematic infrastructure would require revisions to eliminate unreasonable impacts on CSX freight trains, as well as to be constructible, environmentally permittable, and avoid unreasonable or unmitigable impacts on surrounding land uses, roadways, and utilities.

Some infrastructure projects deemed necessary for passenger-train implementation were applied universally across the corridor, and not limited to a specific location, in order to obtain the passenger-train maximum authorized speeds implied by the passenger-train timetable proposed by Amtrak in its "Report for the Southern Rail Commission on Potential Gulf Coast Service Restoration Options," dated December 2015." Those projects included:

- Upgrading track structure to FRA Class 4, enabling passenger train operation at maximum authorized speed of 80 mph (see 49 CFR 213.9, Classes of Track: Operating Speed Limits)
- Installation of Centralized Traffic Control (CTC) on any nonsignaled line segments or line segments equipped with Automatic Block Signals only, enabling passenger train operation at a maximum authorized speed of 79 mph (see 49 CFR 236.0). Note: The more restrictive maximum signaling speed of 79 mph must be observed, even though the track class would permit a maximum passenger speed of 80 mph.
- Installation of Positive Train Control on all line segments operated on regularly by the proposed passenger rail service.
- Modernization of drawbridges, including replacement of aging or unreliable components, converting manned drawbridges to remote-control, and adoption of new technologies

To achieve dispatchable Build Case models, the following total infrastructure was added to Build Case Alternative A, compared to the Base Case:

- 182 track-miles of second main track, new sidings, siding extensions, and yard bypasses (reduced by 8 track-miles for Alternative A1 instead of Alternative A)

- 150 miles of track speed increase to a 79-mph maximum authorized speed on the Tallahassee Subdivision
- 243 miles of Centralized Traffic Control added on the Tallahassee, P&A, and PD subdivisions
- 2 existing single-track drawbridges each replaced with a two-track drawbridge (Chickasawbogue River and Pearl River)
- 1 existing two-track drawbridge replaced with a three-track drawbridge (Three Mile Creek)

Alternative A1 has the same infrastructure as Alternative A except that 182 track-miles of second main track, new sidings, siding extensions, and yard bypasses is reduced to 174 track-miles, and the replacement of the Pearl River drawbridge is not required.

Table 5-13 summarizes the infrastructure projects proposed for each subdivision for Build Case Alternative A, as estimated by the operations simulation model, and as also required by CSX, to support the implementation of scheduled passenger rail service in the proposed Gulf Coast corridor. Projects that deliver capacity or main track authorized speed increases were input into the model, and future year 2020 and 2040 cases simulations were conducted with it. These infrastructure projects are subject to change as described above.

Table 5-13. Infrastructure Improvement Projects to Support Passenger Service Implementation in Build Case Alternative A

Project	Milepost limits
Sanford Subdivision (Jacksonville-DeLand)	**A 648.2 – A 749.6**
Upgrade track structure	A 648.2 – A 749.6
Modernize drawbridges	Three bridges: A649.1, A 694.1, A 703.4
Jacksonville Terminal Subdivision: A Line (Jacksonville Amtrak to DeLand)	**A 635.2 – A 648.2**
Upgrade track structure	A 635.2 – A 648.2
Upgrade signaling/PTC	A 635.2 – A 648.2
Add Dinsmore crossover	A 635.2
Add double track: Amtrak station to Beaver St.	A 629.4 – A 642.5
Jacksonville Terminal Subdivision: SP Line (Beaver Street to West Baldwin)	**SP 635.0 – SP 653.0**
Upgrade track structure	SP 635.0 – SP 653.0
Upgrade signaling/PTC	SP 635.0 – SP 653.0
Build double track: Beaver St. to Duval Connection	SP 635.0 – SP 639.8
Extend Whitehouse siding	SP 644.6 – SP 646.36
Build double track: new SE Whitehouse to Halsema	SP 646.36 – SP 644.6
Tallahassee Subdivision (West Baldwin to South Chattahoochee)	**SP 653.0 – SP 842.5**

Project	Milepost limits
Upgrade track structure	SP 653.0 – SP 842.5
Upgrade signaling/PTC	SP 653.0 – SP 842.5
Extend Sanderson siding	SP 671.8 – SP 672.8
Build Sanderson running track	SP 667.7 – SP 670.8
Build new siding near Lake City	SP 685.16 – SP 688.42
Build Lake City running track	SP 693.5 – SP 695.1
Build new Wellborn siding	SP 704.8 – SP 708.5
Build new Live Oak Siding	SP 718.73 – SP 721.8
Extend Lee siding	SP 736.11 – SP 737.45
Extend Madison siding	SP 746.5 – SP 748.8
Extend Aucilla siding	SP 765.0 – SP 767
Extend Chaires siding	SP 787.13 – SP 785.7
Upgrade Tallahassee Running Track	SP 798.8 – SP 802
Convert Midway storage track to siding and extend	SP 811.64 – SP 814.6
Extend Douglas City siding	SP 826.4 – SP 827.8
Build new Chattahoochee siding	SP 837.7 – SP 840.8
P&A Subdivision (Chattahoochee to Pensacola)	**SP 842.5/00K 810.7 – 00K 645.0**
Upgrade track structure	SP 842.5/00K 810.7 – 00K 645.0
Upgrade signaling/PTC	SP 842.5/00K 810.7 – 00K 645.0
Modernize drawbridges	Two bridges: 00K 809.1, 00K 670.5,
Build new siding near Grand Ridge	00K 800 – 00K 796.4
Build new Marianna storage siding	00K 791 – 00K 789.6
Build new siding near Marianna/Lime Rock	00K 783.7 – 00K 779.9
Extend Chipley siding	00K 770.1 – 00K 769.1
Convert Westville storage track to siding	00K747.8 – 00K 744.4
Convert DeFuniak Springs storage track to siding	00K 729.9- 00K 726.6
Build new DeFuniak Springs storage track	00K 724.8 – 00K 723.5
Extend Sellers siding	00K 721.5 – 00K 717.9
Build new siding at Deerland	00K 711.7 – 00K 708.3
Build new Galliver storage Siding	00K 690.8 – 00K 689.3
Build double track: Floridale to Galliver	00K 690.9 – 00K 682.9
Build Avalon storage track	00K 667.1 – 00K 666.8
Build new Mulat storage siding	00K 663.6
Add double track: Pace to Avalon siding	00K 665.2 – 00K 663.5

Project	Milepost limits
Build Escambia Bay Bridge turnout and track Shift	00K 659.4 – 00K 659.2
Build new Pensacola running track	00K 648.8 – 00K 646
Grade Separate Airport Boulevard, Pensacola	00K 645.9
PD Subdivision (Pensacola to Flomaton)	**00K 645 - 00K 607.2**
Upgrade track structure	00K 645 - 00K 607.2
Upgrade signaling/PTC	00K 645 - 00K 607.2
Build Cantonment storage siding	00K 636.5 – 00K 635.0
Extend Cantonment siding	00K 636.3 – 00K 633.5
Extend Molino siding	00K 630.8 – 00K 627.2
Build new siding at McDavid	00K 617.4 – 00K 613.7
Build double track at Flomaton	00K 610.6 – 00K 607.3
M&M Subdivision (Flomaton to Mobile)	**000 607.0 - 000 665.2**
Track structure upgrade	000 607.0 - 000 665.2
Modernize drawbridges	Three: 000 651.5, 000 653.5, 000 658.3
Upgrade Flomaton crossover to Dispatcher Control	000 606.6
Extend Wawbeek siding to Miles	000 609.3 – 000 613.1
Extend double main: Nokomis to Perdido	000 626.5 – 000 629.4
Build Bay Minette storage siding	000 646.2 – 000 644.7
Build double track: Hurricane to Bay Minette	000 642.8 – 000 649.2
Build new Hurricane siding	000 647.3 – 000 649.2
Add double track, Aladocks to Sandy siding, with Chickasawbogue Bridge replacement	000 662.9 – 000 663.5
Add double track, Sandy Siding to Three Mile Creek, with Three Mile Creek drawbridge replacement	000 664.2 – 000 663.9
Build Sibert Yard bypass track	000 664.2 – 000 666.0
NO&M Subdivision (Mobile to New Orleans)	**000 665.2 - 000 803.7**
Track structure upgrade	000 665.2 - 000 803.7
Modernize drawbridges	Six: 000 706.8, 000 724.3, 000 752.5, 000 775.4, 000 787.2, 000 801.4
Build double track: Choctaw to Brookley	000 667.0 – 000 669.7
Extend Saint Elmo siding	000 683.9 – 000 685.6
Build double track: Orange Grove to Pascagoula River Bridge	000 701.2 – 000 706.6
Build double track: Pascagoula River Bridge to Gautier siding	000 707 – 000 709.8

Project	Milepost limits
Build double track: Gautier to Fountainbleau	000 712.7 – 000 716.5
Build double track: Biloxi Bay drawbridge to Beauvoir siding	000 725.1 – 000 730.2
Build double track: Beauvoir to Gulfport KCS Connection	000 731.9 – 000 739.4
Upgrade Harbin to a signaled siding	000 745.0 – 000 746.9
Build new Harbin rock train storage track	000 746.3 – 000 747.2
Extend Nicholson Ave. siding	000 756.4 – 000 758.2
Build double track: Claiborne to Rigolets, with Pearl River drawbridge replacement	000 768.9 – 000 774.1
Build double track: Rigolets to Chef Menteur	000 776 – 000 787
Extend double track from Michoud to Chef Menteur	000 793.1 – 000 788.4
Build Gentilly Yard bypass track	000 796.1 – 000 801

For all infrastructure improvement projects listed above, the following assumptions governing new track and siding infrastructure were adhered to and included in the operations model:

1. Existing main track or second main track:
   a. If in current 79 mph territory (tangent), remains at 79 mph
   b. If in historic 79 mph territory (tangent), but not today at 79 mph, upgrade to 79 mph
   c. If in unsignaled territory, upgrade to historic maximum speeds (generally 50 or 59 mph tangent), but not to 79 mph
2. New second main track:
   a. Match speed of adjacent main track
   b. End-of-second main track turnouts, and crossovers between main tracks, are #20 (45 mph)
   c. Other signaled/controlled turnouts exiting main tracks (e.g., yard leads) are #15 (30 mph)
   d. Any siding longer than 15,000 feet nominal will be considered second main track
3. New sidings:
   a. Design speed 45 mph (unless limited by curves)
   b. #20 turnouts
4. Extended sidings:
   a. Improve track to 45 mph
   b. Install #20 turnouts both ends
5. Sidings converted from controlled to signaled:
   a. Improve track to 45 mph
   b. Install #20 turnouts at both ends of siding
6. Bypasses and other special trackage:
   a. Generally, fastest maximum authorized speed allowable commensurate with geometry, signaling system, or other limits
   b. Generally, #20 turnouts, unless maximum authorized track speed is 30 mph or less, then #15 turnouts

To achieve a dispatchable No-Build case model, a limited amount of infrastructure was added to the No-Build case, compared to the Base Case, consisting of:

- 38 track-miles of second main track, new sidings, siding extensions, and yard bypasses, incorporated as follows:
    - 5 miles of siding extensions on the NO&M Subdivision
    - A 5-mile Gentilly Yard bypass track on the NO&M Subdivision
    - 5 miles of siding extensions on the M&M Subdivision
    - 4 miles of double main track and siding extension on the PD Subdivision
    - 10 miles of siding extensions and new sidings on the P&A Subdivision
    - 9 miles of siding extensions and new sidings on the Tallahassee Subdivision
- 0 miles of track speed increases
- 0 miles of CTC/PTC added
- 0 replaced drawbridges

Appendix B details the corridor track infrastructure improvements input into the Build Case (both Alternative A1 and Alternative A) and the No-Build Case. Appendix C contains a high-level cost estimate broken down by broad line segments for constructing all of the infrastructure improvements projects to support passenger rail service implementation listed in Table 5-13.

6.0 Results

6.1. Passenger Train On-Time Performance

Results were obtained from five RTC model runs, with each dispatch comprising a 14-day period of rail operations. Train performance data, consisting of passenger-train on-time performance and freight train delay per 100 train-miles, was extracted from the middle 10 days of the 14-day period only, as described in Section 4.5.

Figure 6-1 graphs the on-time performance of passenger trains in the model when the Build Case infrastructure described in Section 5.3.4 is input into the model. Performance was measured in the year 2040. Graph bars in blue shows on-time performance for passenger trains for Alternative A (one daily round-trip long-distance train between New Orleans and DeLand and one daily round-trip state-supported corridor train between New Orleans and Mobile), and graph bars in orange show results for Alternative A1 (one daily round-trip long-distance train between New Orleans and DeLand). Train operations were randomized, as described in Section 4.6.

None of the passenger train alternatives modeled produced PRIIA-compliant on-time performance results. Performance of the state-supported corridor train ranged from 66% westbound to 83.7% eastbound. Performance of the long-distance train ranged from 72% westbound to 62% eastbound. In Alternative A1, the performance of the long-distance train showed a modest improvement, rising to 76% westbound and 66% eastbound.

The model cases were analyzed to determine why passenger train on-time performance was not meeting target despite the new infrastructure. Analysis showed that drawbridge openings were the principal cause of late-arriving passenger trains at final terminal. A potential infrastructure solution to drawbridge openings would be to incorporate high-level, fixed bridges (of sufficient height above mean high water to clear marine traffic). This type of infrastructure was not incorporated into the RTC model.

Figure 6-1. Passenger Train On-Time Performance

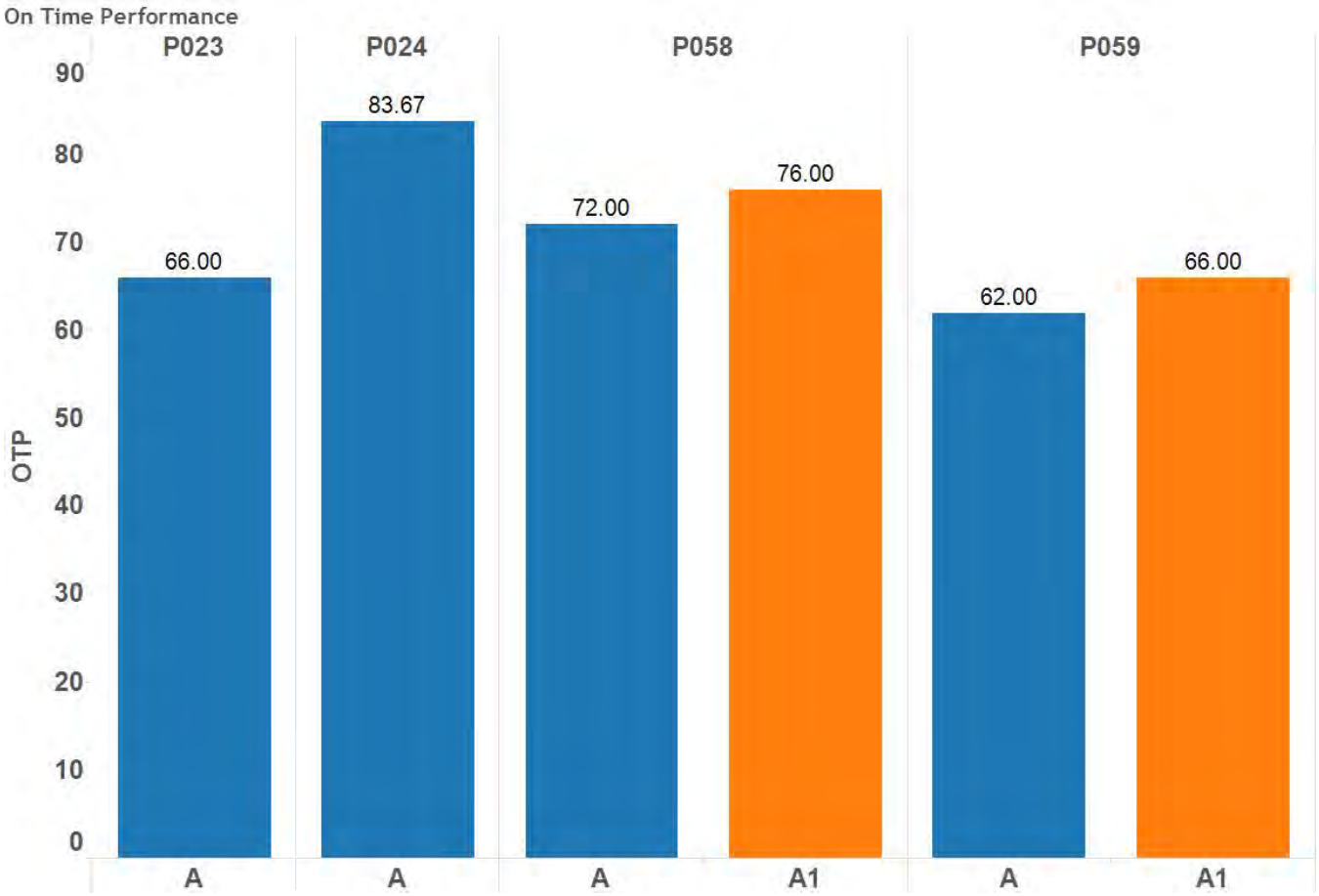
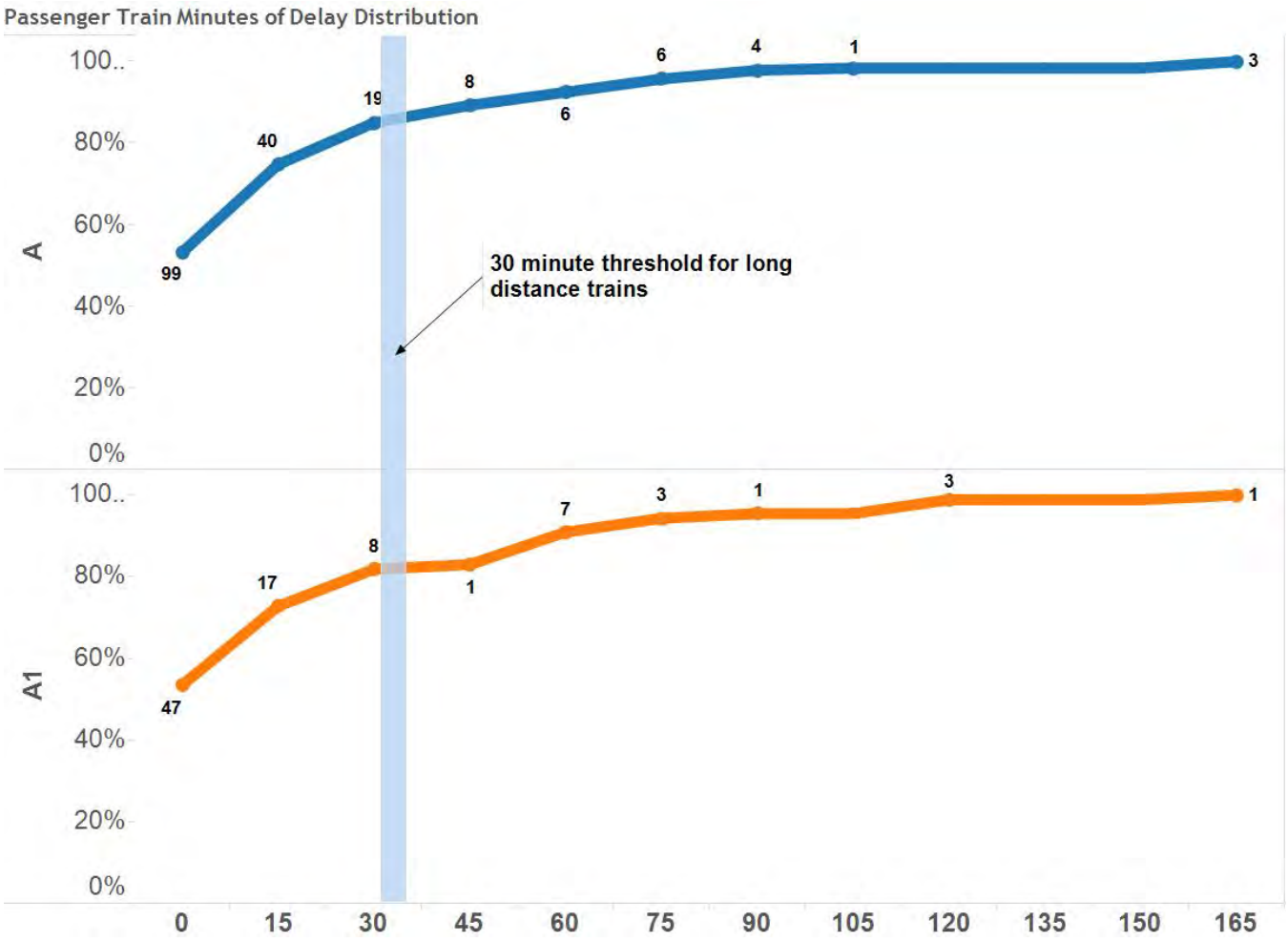


Figure 6-2 below plots the distribution of passenger train on-time performance in the Build Case. The horizontal axis (figures at bottom) shows minute of lateness from 0 to 165. The vertical axis shows the percent of trains that arrived in each 15-minute increment of the total trains in the model. The numbers along the blue curve (Alternative A) and on the orange curve (Alternative A1) show the number of trains in the model that arrived either on time (0 minutes of lateness on the horizontal axis) or at each 15-minute increment of lateness. The light blue vertical band shows the 30-minute late tolerance threshold for long-distance trains under Section 207 of PRIIA. In total, 200 data points were collected for Alternative A: 4 passenger trains per day, 10 days per model, 5 cases, and 100 data points were collected for Alternative A1: 2 passenger trains per day, 10 days per model, 5 model runs. Figure 6-2 illustrates that approximately 50% of all passenger trains operated with zero minutes of lateness from scheduled endpoint arrival time. Another 20% to 25% of passenger trains

operated with minimal delay and completed their runs within the 30-minute lateness tolerance established by PRIIA Section 207 for long-distance passenger trains of 551 miles or more. The remaining 25% of the passenger trains completed their runs 30 to 800 minutes after scheduled arrival time.

Figure 6-2. Late Passenger Train Distribution



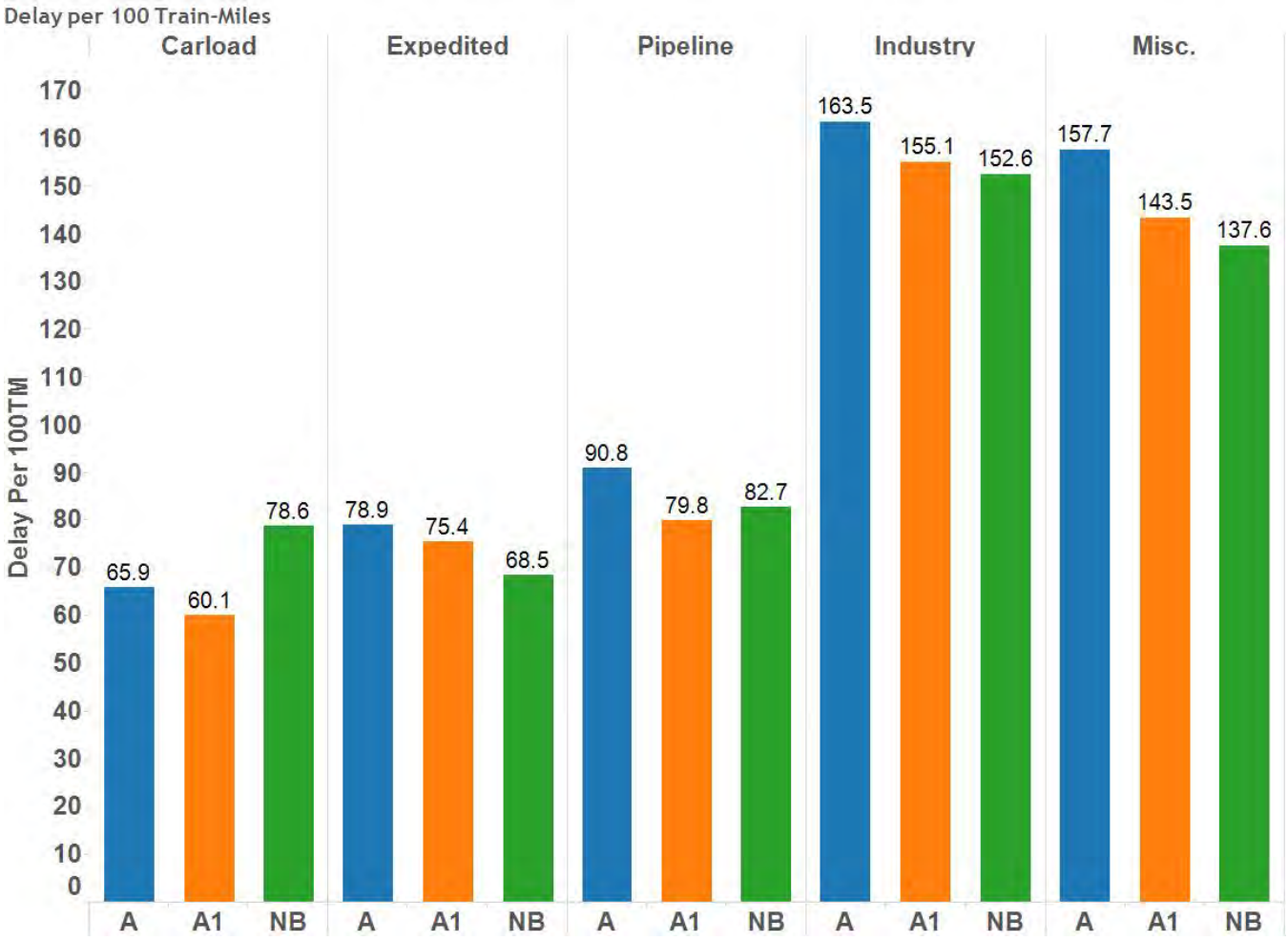
6.2. Freight Train Delay

Figure 6-3 compares the minutes of total freight train delay per 100 train-miles by train type between the No-Build case, Build Alternative A case, and Build Alternative A1 case (the No-Build Case is identified as “NB”. Results were measured for five different train types that commonly operate in the corridor. The names of train types used in Figure 6-3 correspond to the nomenclature used within the RTC model, but have equivalents in type and operating characteristics to actual CSX train types described in Section 3.2 of the report. The train types measured for freight train delay impacts were: Merchandise (labeled Carload in the figure below), Intermodal (labeled Expedited), Local (labeled

Industry), Bulk (labeled Pipeline), and a fifth category, identified as Miscellaneous, that includes trains such as yard transfers and light engine moves.

Freight train performances varied in the Build Cases for Alternatives A and A1 from the No-Build Case. For some train types, performance improved from the No-Build Case and for other train types performance degraded. Considered as a whole, among all freight train types, the performance of the Build Cases Alternatives A and A1 was similar to the No-Build Case, however, the most time-sensitive freight train type (intermodal) was degraded significantly in both Build Cases.

Figure 6-3. Freight Train Minutes of Delay per 100 Train-Miles, Total by Train Type



The operations simulations described in this report are high-level and were conducted on an accelerated schedule. Additional and more detailed operations simulation would be required in order to accurately identify all necessary infrastructure improvements and passenger timetable revisions required to accurately estimate the performance of the proposed passenger service and to eliminate impacts on forecasted future CSX freight trains, and impacts on capacity, velocity, and flexibility for freight train services in the corridor that would otherwise be available to CSX. Additional operations simulation modeling would be required, for example, to understand the differences in freight train

performance between the cases illustrated in Figure 6-3 and, where required, to eliminate these differences and to determine if passenger train on-time performance can be improved from the results illustrated in Figure 6-1. Operations modeling of the sections of the Gulf Coast passenger corridor owned by other railroads and agencies may also be required to determine the operability of the proposed passenger service on these portions of the corridor and the infrastructure that may be required.

Appendix A Freight Growth

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Gulf Coast Projected Growth

CSX Transportation, Inc., (“CSXT”) makes no warranties or guarantees, express or implied, as to the data being provided herewith (“the Electronic Files”) to the users (“the Users”), including but not limited to, freedom from defects, accuracy, reliability, or usefulness. Furthermore, the providing of the Electronic Files by CSXT shall not be construed or interpreted to represent CSXT’S agreement, consent, acquiescence, or concurrence with the use or manipulation of the Electronic Files nor with any work products derived from such actions. Users acknowledge and knowingly and voluntarily accept all risks associated with the creation, opening, downloading, translation, transmission, sharing, copying, transfer, and/or use of Electronic Files, including, but not limited to the following risks: a.) Electronic Files may be infected, infested or contaminated and may cause serious harm to the work of Users and others and to the computers, servers, and other systems of Users and others; b.) data contained in Electronic Files may be obsolete, incomplete, uncoordinated, superseded, unfit, unfit for intended or desired purposes, erroneous, inaccurate and/or defective; c.) inaccuracies in the Electronic Files and/or the data, information and documents contained therein may be introduced in the creation, opening, downloading, translation, transmission, sharing, copying, transfer, and/or use of Electronic Files; d.) software, hardware, accessories, programs and systems used to create, open, download, translate, transmit, share, copy, transfer and/or use Electronic Files may be incompatible and may cause harm to the Electronic Files, the data, information and documents contained therein, to the work of Users and others and to the computers, servers, and other systems of Users and others; e.) data, information and documents in Electronic Files may be incorrect, misleading, and/or concealed in layers that are hidden or unopenable; and f.) there are other risks and consequences, known and unknown, foreseeable and unforeseeable, associated with Electronic Files that are not associated with or attributable to the use of data, information and documents in hard copy or original forms. CSXT as a private company and owner of the right of way being studied reserves the ultimate right to determine the available capacity on its rail network.

Gulf Coast Corridors Future Projected Growth

Growth Rate Methodology

Volumes were evaluated for three time periods, during the time period used for the base simulation, 2020, and 2040.

The base simulation was built using the weeks from May 1, 2016 to May 14, 2016. Implementation year for passenger service is estimated to be 2020. To determine freight growth from 2016 to 2020 and ultimately to 2040, the USDOT Freight Analysis Framework (FAF) numbers were used. These are publically available projected growth rates for rail. To get the growth rate for this corridor, the ton-miles for the states CSX operates in was used to get growth by train type. The FAF reports the ton-miles by commodity group which can be assigned to a train type using the same methodology used the Cambridge Systematics National Freight Capacity Study (2007). These are reported for 5 year increments up to 2040. This provided the basis for the 2020 and 2040 growth numbers. 2016 volumes were used in growth calculation; however rate will be derived from 2015 to 2020 growth seen in FAF data.

Growth Traffic Flows Per Week

Currently, 2/3 of traffic between New Orleans and Jacksonville flow between New Orleans and Flomaton, splits at Flomaton to go up to Montgomery and down on the Panhandle Montgomery bi-directionally equal in amounts. This traffic pattern is expected to continue. Additionally, 90-car grain trains run seasonally during the fall in this corridor, so CSX reserves the right to hold places for these trains in future cases. Typically, about one pair of these 90-car grain trains are seen a week during the fall and they flow between Montgomery and New Orleans.

Standard Train Lengths and Tonnage for Growth Trains

It is assumed that existing trains will remain the same size. For the future growth traffic, the average lengths and tonnages along with standard deviations were calculated based on existing traffic of that type. There are three different sets of coal trains in this region: 110, 150, and 170-car coal trains, each with their own average lengths and tonnages.

	Tons		**Length**		**Car Size**
	Avg	StdDev	Avg	StdDev	
Intermodal	3800	1600	5700	2300	106 tons, 180 feet
Automotive	5000	2800	5800	2600	60 tons, 96 feet
Merchandise	8400	4100	7000	2800	76 tons, 53 feet

	Tons		**Length**	**Cars**
	Loaded	Empty		
Coal	15000	2800	6000	110
Coal	21000	3500	8200	150
Coal	23000	3900	9300	170
Grain	9200	2100	3900	65

Train Schedules & Dwells

Future train schedules should reflect existing traffic patterns and scheduled work.

Freight Volumes by Time of Day

Folkston to Deland	
Hour Bucket	Percentage
0000-0600	25%
0600-1000	16%
1000-1500	19%
1500-2000	21%
2000-2400	18%

Montgomery to Jacksonville	
Hour Bucket	Percentage
0000-0600	28%
0600-1000	15%
1000-1500	19%
1500-2000	20%
2000-2400	19%

New Orleans to Jacksonville	
Hour Bucket	Percentage
0000-0600	25%
0600-1000	16%
1000-1500	21%
1500-2000	21%
2000-2400	16%

New Orleans to Montgomery	
Hour Bucket	Percentage
0000-0600	25%
0600-1000	17%
1000-1500	21%
1500-2000	21%
2000-2400	16%

Trains per Day

	Jacksonville - Baldwin	Baldwin - Tallahassee	Tallahassee - Chattahoochee	Chattahoochee - Pensacola	Flomaton - Pensacola	Montgomery - Flomaton	Flomaton - Mobile	Mobile - New Orleans	Folkston - Callahan	Callahan - Jacksonville	Jacksonville - Bostwick	Bostwick - Deland	Callahan - Baldwin	Baldwin to Wannee Jct
2016														
Automotive	1	0	0	0	0	0	0	0	4	1	0	0	3	3
Bulk	0	1	1	1	1	1	1	1	5	0	0	0	5	4
Coal	1	2	2	2	2	4	2	0	1	0	2	0	1	1
Grain	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intermodal	8	1	1	1	1	1	2	2	15	14	0	0	1	6
Merchandise	1	2	3	3	4	7	8	8	14	6	1	1	8	7
2020														
Automotive	1	0	0	0	0	0	0	0	5	1	0	0	3	3
Bulk	0	1	1	1	1	1	1	1	6	1	0	0	6	5
Coal	1	2	2	2	2	4	2	0	1	0	2	0	1	1
Grain	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Intermodal	9	1	1	1	1	1	2	2	17	16	0	0	1	7
Merchandise	1	3	3	3	4	8	9	9	15	6	1	1	9	7
2040														
Automotive	1	0	0	0	0	0	0	0	7	2	1	1	5	5
Bulk	0	1	1	1	2	2	2	1	9	1	0	0	8	7
Coal	1	2	2	2	2	4	2	0	1	0	2	0	1	1
Grain	1	1	0	0	0	0	0	0	1	0	0	0	1	0
Intermodal	16	2	3	3	3	2	4	4	30	29	0	0	2	12
Merchandise	2	4	4	4	6	11	13	12	21	9	2	2	12	10

Trains per Week

	Jacksonville - Baldwin	Baldwin - Tallahassee	Tallahassee - Chattahoochee	Chattahoochee - Pensacola	Flomaton - Pensacola	Montgomery - Flomaton	Flomaton - Mobile	Mobile - New Orleans	Folkston - Callahan	Callahan - Jacksonville	Jacksonville - Bostwick	Bostwick - Deland	Callahan - Baldwin	Baldwin to Wannee Jct
2016														
Automotive	5	0	0	0	1	0	1	1	30	9	3	3	21	22
Bulk	2	4	5	5	7	9	8	5	36	3	2	2	33	28
Coal	6	12	13	12	11	28	15	3	6	2	11	0	5	10
Grain	2	2	0	1	1	1	0	0	3	0	0	0	3	0
Intermodal	53	8	9	9	9	5	14	14	102	96	0	0	5	40
Merchandise	9	17	20	18	26	49	57	55	95	41	9	7	54	46
2020														
Automotive	5	0	0	0	1	1	1	1	32	10	3	3	23	24
Bulk	2	5	5	6	9	10	9	6	43	4	2	2	39	33
Coal	7	12	13	12	11	28	16	3	6	2	11	0	5	10
Grain	2	2	0	1	1	1	0	0	4	0	0	0	4	0
Intermodal	61	9	10	10	10	6	16	16	118	111	0	0	6	46
Merchandise	10	19	22	20	29	54	63	61	106	45	9	8	60	51
2040														
Automotive	8	0	0	1	1	1	2	2	47	14	5	4	33	35
Bulk	3	7	8	9	12	15	13	9	61	5	3	3	56	48
Coal	7	13	14	13	12	30	17	3	7	2	11	0	5	10
Grain	5	5	0	3	3	3	0	0	8	0	0	0	8	1
Intermodal	111	17	18	18	18	12	30	30	213	200	0	0	12	84
Merchandise	15	27	31	27	40	76	88	85	148	63	13	11	84	72

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Appendix B Track Diagrams

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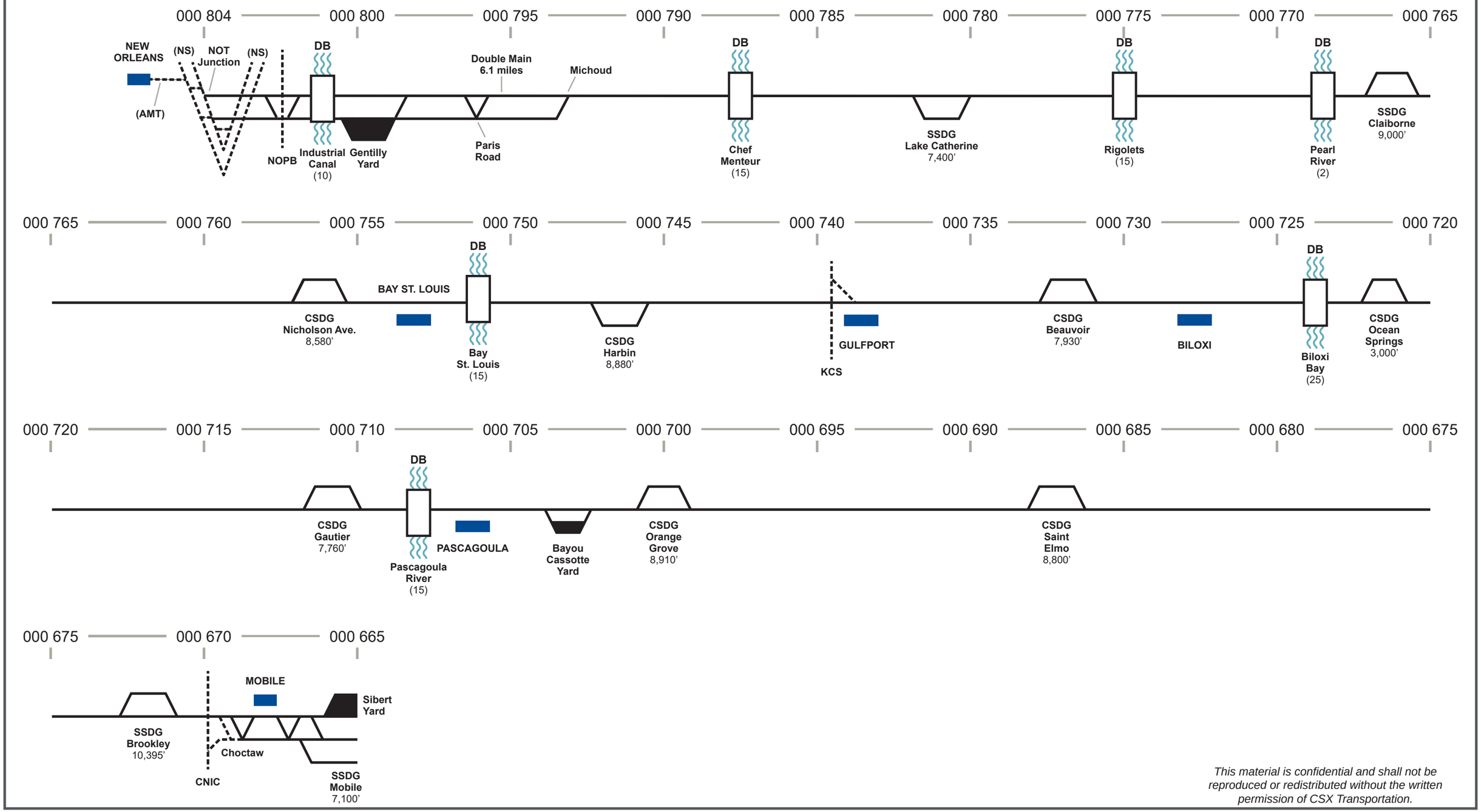
NO&M Subdivision:
New Orleans-Mobile

EXISTING INFRASTRUCTURE

Miles: **138.5**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **7** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **4**
Intermediate Passenger Stations: **5**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



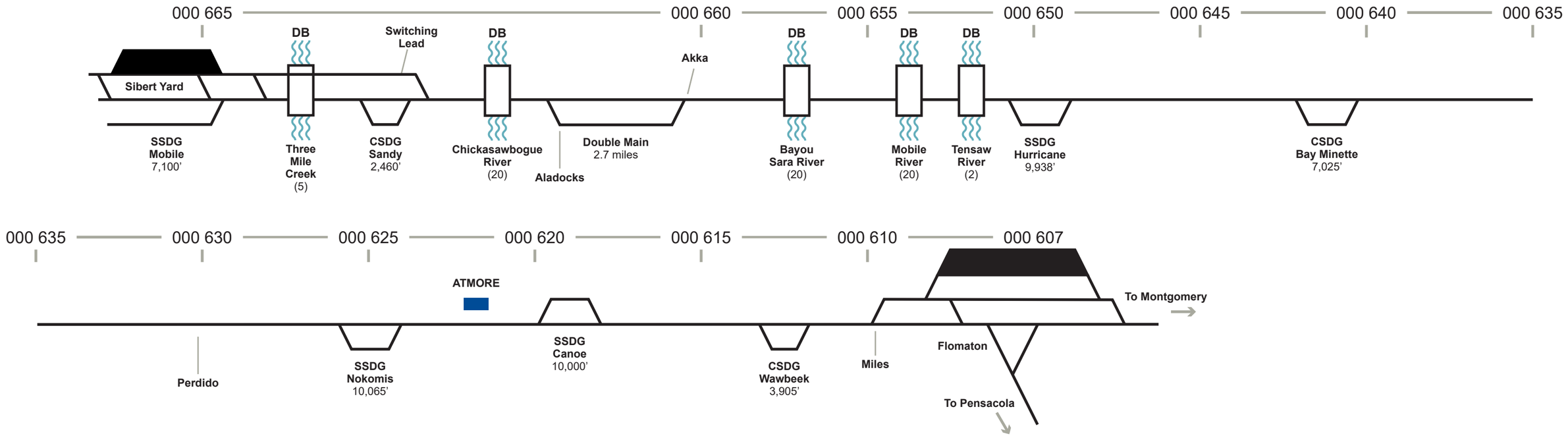
M&M Subdivision:
Mobile-Flomaton

EXISTING INFRASTRUCTURE

Miles: **58.2**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **5** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



PD Subdivision:
Flomaton-South Pensacola

EXISTING INFRASTRUCTURE

Miles: **37.8**
Movement Authority: **Track Warrant Control**
Passenger Train Maximum Authorized Speed: **59 mph**

Drawbridges: **0** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **0**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform

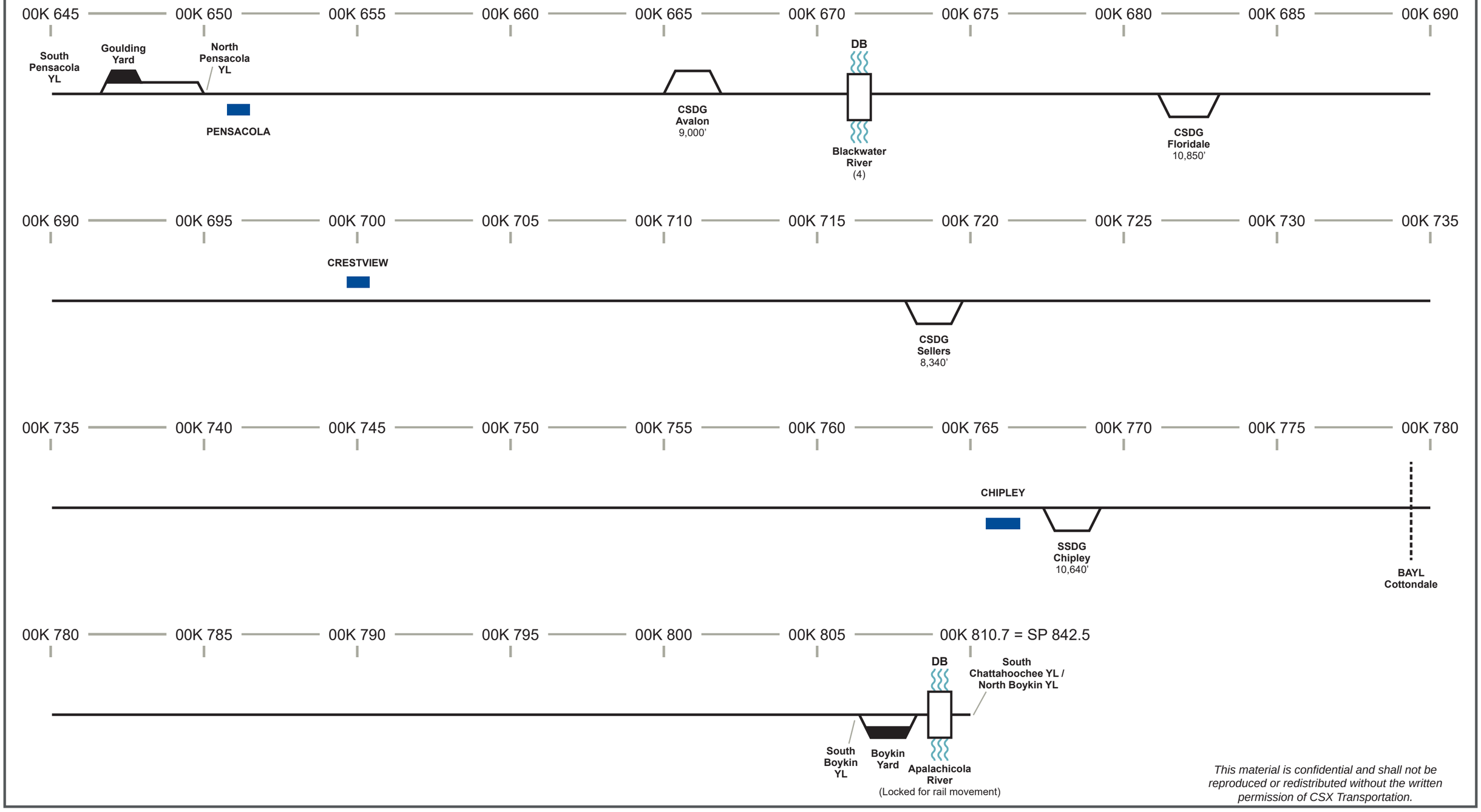
P&A Subdivision:
South Pensacola-Chattahoochee

EXISTING INFRASTRUCTURE

Miles: **165.7**
Movement Authority: **Track Warrant Control/ Yard Limits (Boykin & Pensacola)**
Passenger Train Maximum Authorized Speed: **59 mph**

Drawbridges: **2** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **1**
Intermediate Passenger Stations: **3**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



Tallahassee Subdivision:
Chattahoochee-West Baldwin

EXISTING INFRASTRUCTURE

Miles: **189.5**

Movement Authority:
Centralized Traffic Control (West Baldwin-Tallahassee GF&A Conn.),
Track Warrant Control (Tallahassee GF&A Conn.-North Chattahoochee YL)
Yard Limits (North Chattahoochee-South Chattachoochee

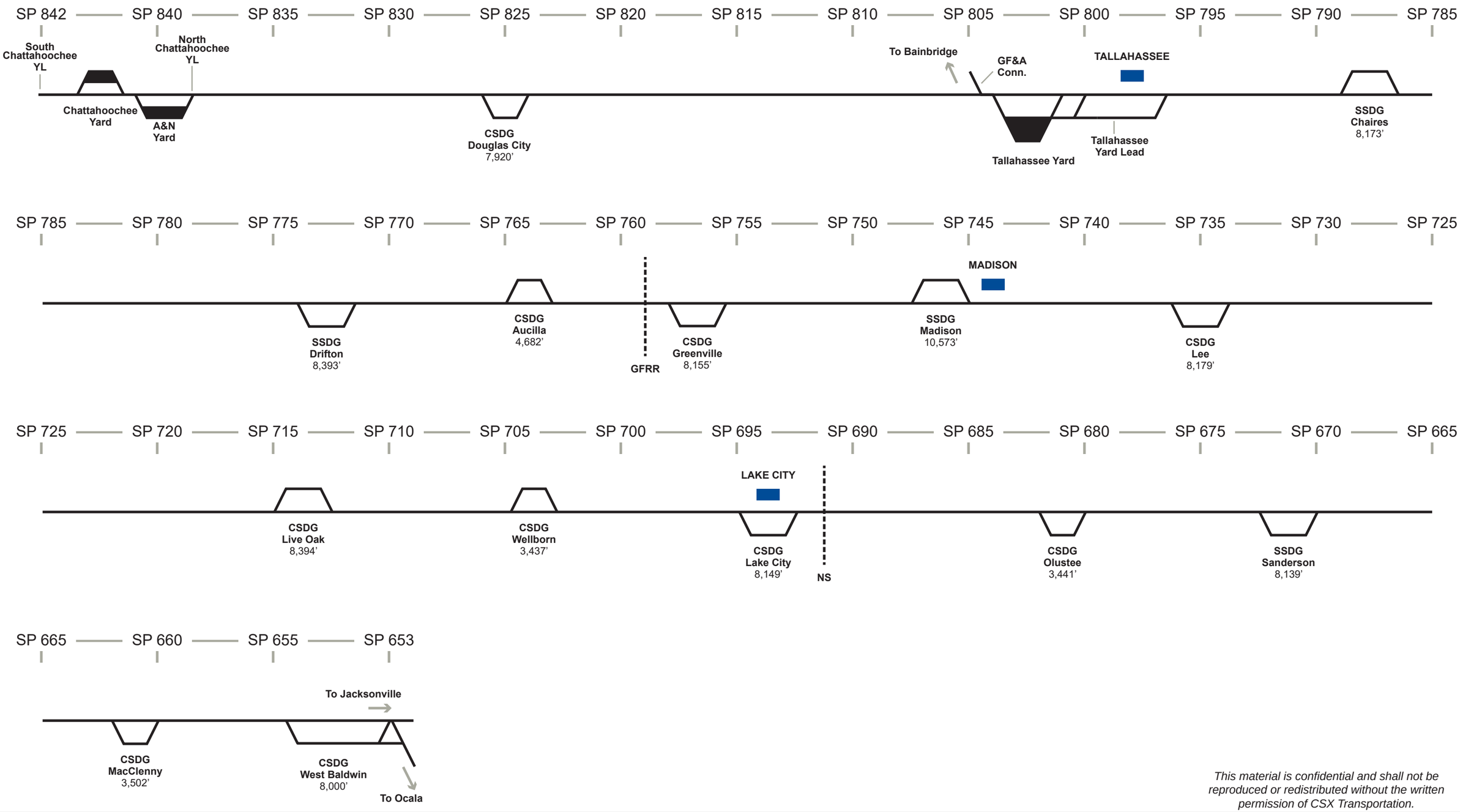
Passenger Train Maximum Authorized Speed: **59 mph**

Drawbridges: **0** (Average Daily Openings shown in parentheses)

At-Grade Rail Crossings: **2**

Intermediate Passenger Stations: **3**

- Existing Track
- New Track
- Retired Track
- Non-CSX Lines
- Passenger Station Platform



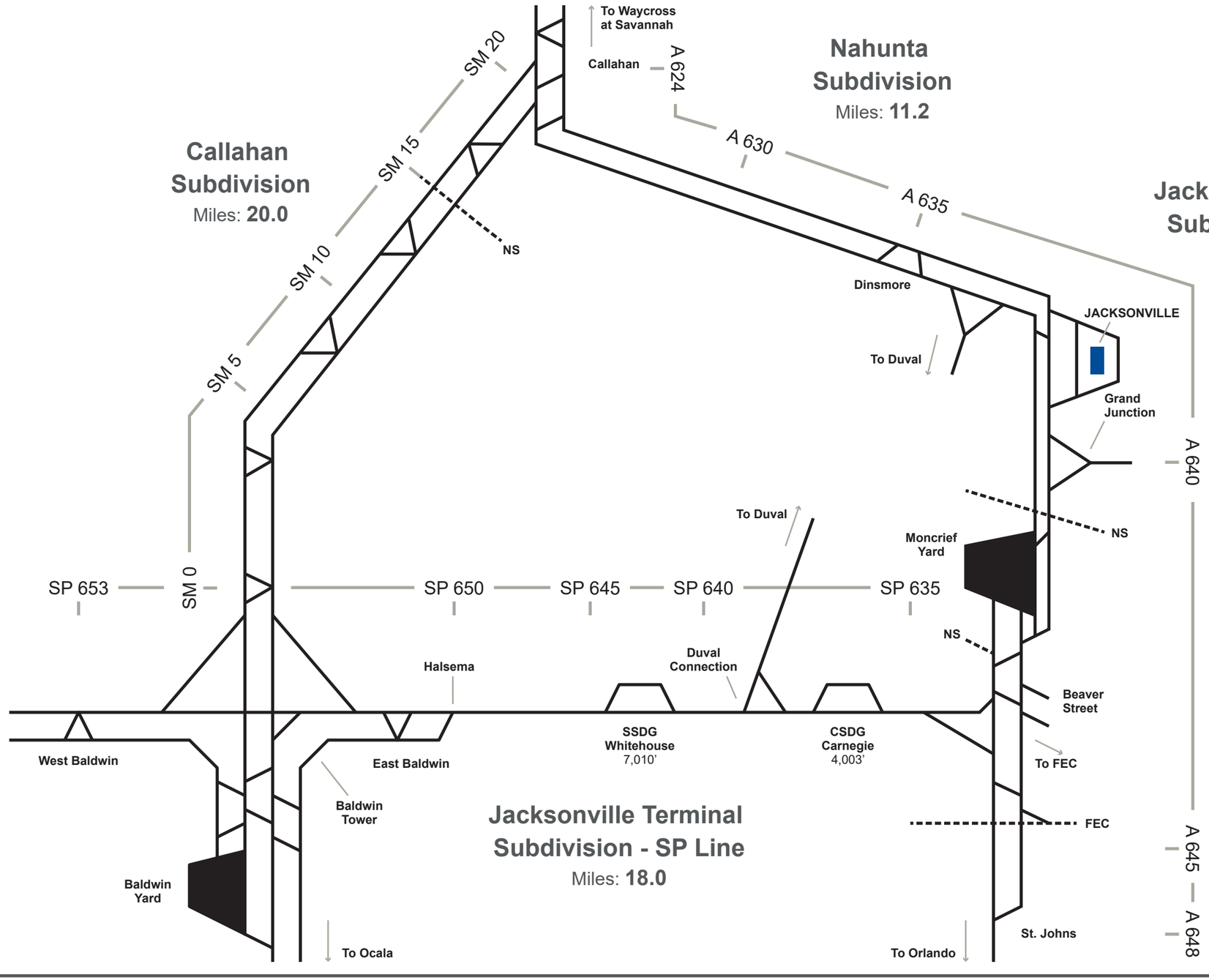
Jacksonville Terminal

EXISTING INFRASTRUCTURE

Miles: **Noted below**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **0** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **4**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



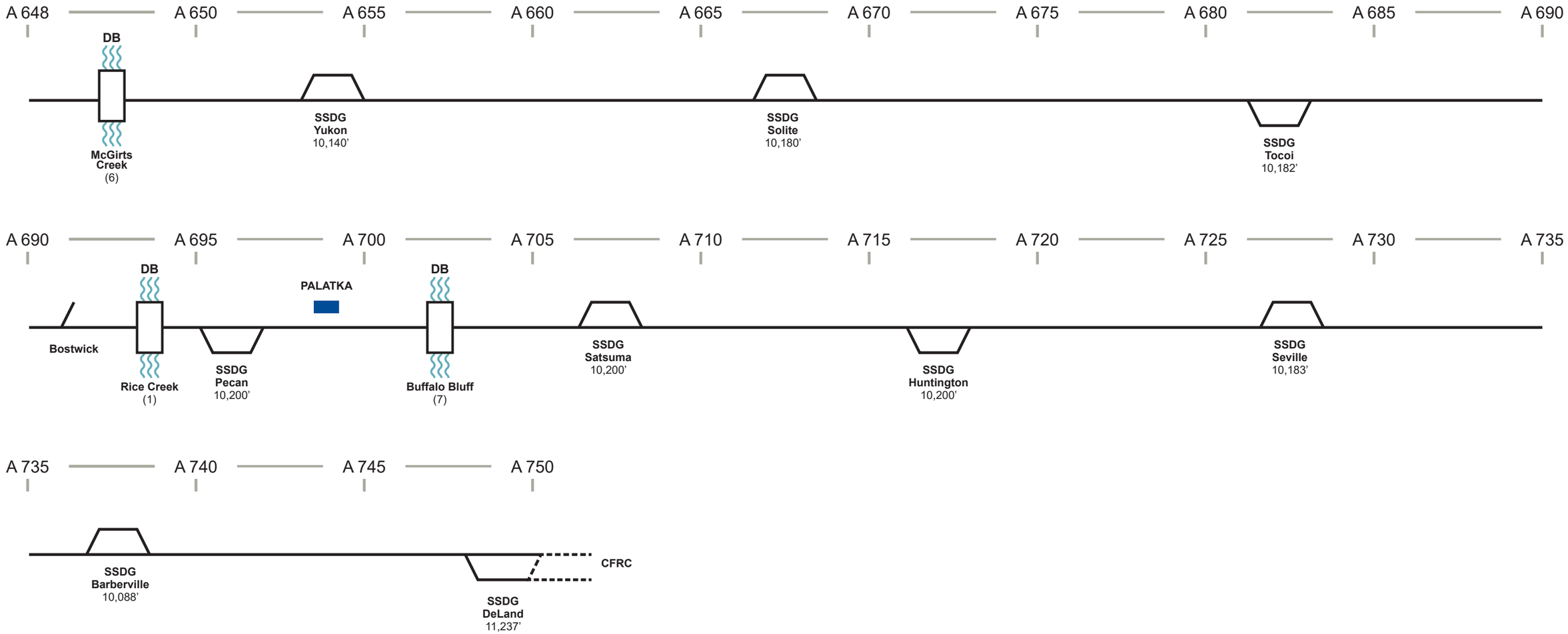
Sanford Subdivision:
St. Johns-DeLand

EXISTING INFRASTRUCTURE

Miles: **101.4**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **3** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



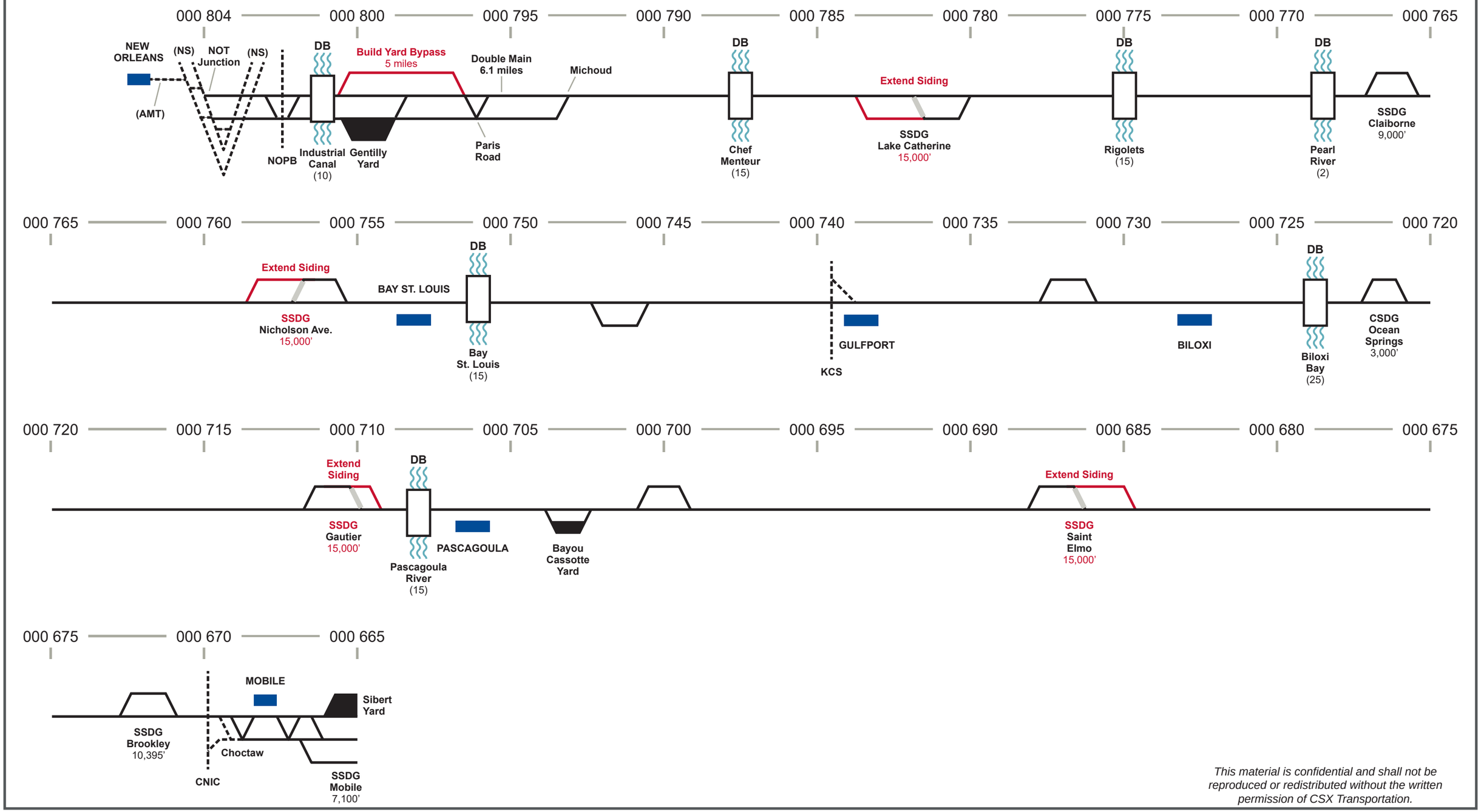
NO&M Subdivision:
New Orleans-Mobile

NO-BUILD INFRASTRUCTURE

Miles: **138.5**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **7** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **4**
Intermediate Passenger Stations: **5**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



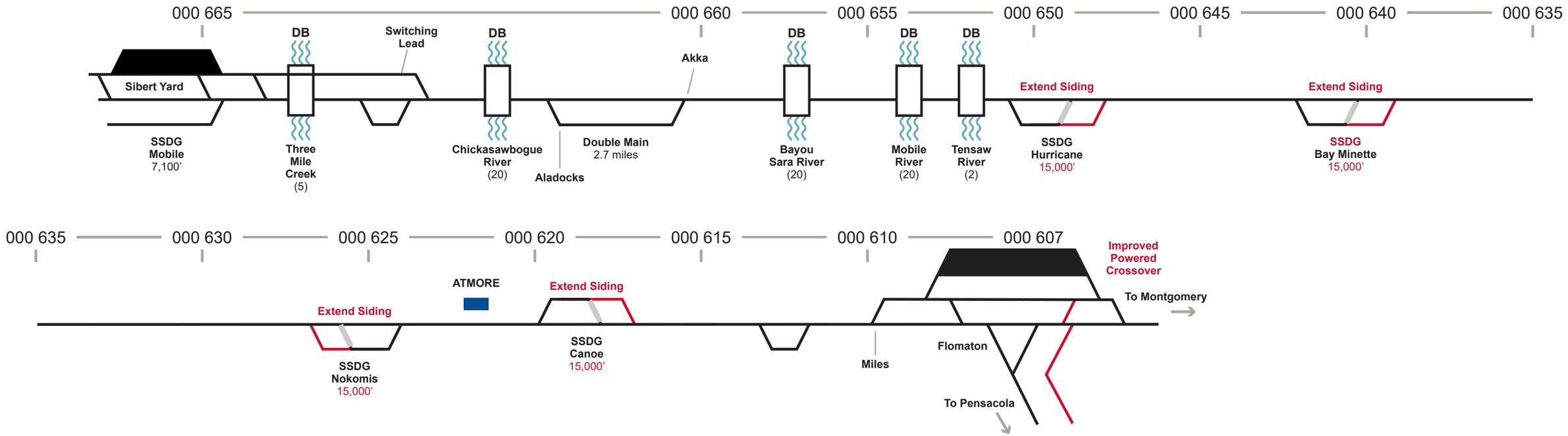
M&M Subdivision:
Mobile-Flomaton

NO-BUILD INFRASTRUCTURE

Miles: **58.2**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **5** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



PD Subdivision:
Flomaton-South Pensacola

NO-BUILD INFRASTRUCTURE

Miles: **37.8**
Movement Authority: **Track Warrant Control**
Passenger Train Maximum Authorized Speed: **59 mph**

Drawbridges: **0** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **0**

- Existing Track
- New Track
- Retired Track
- Non-CSX Lines
- Passenger Station Platform

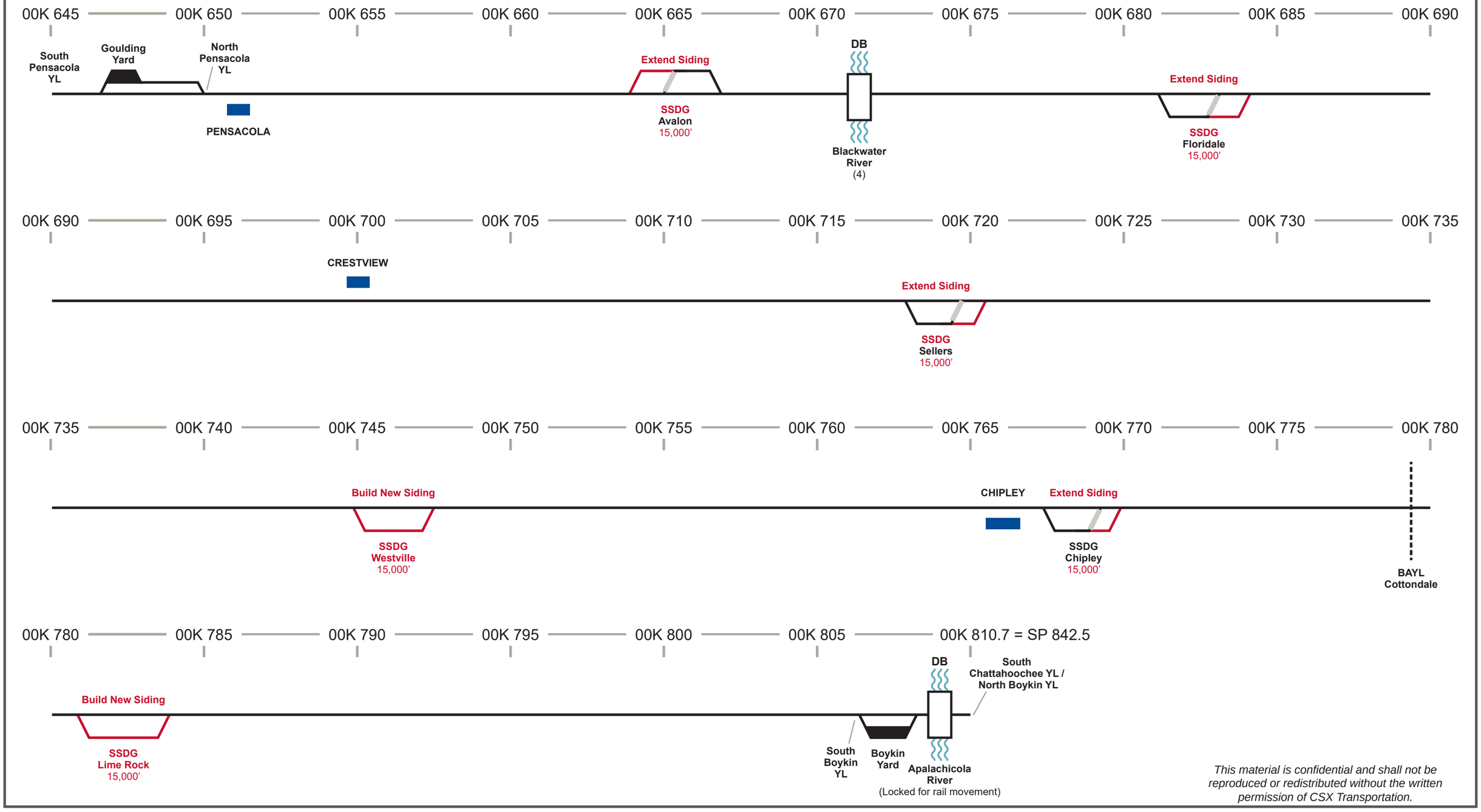
P&A Subdivision:
South Pensacola-Chattahoochee

NO-BUILD INFRASTRUCTURE

Miles: **165.7**
Movement Authority: **Track Warrant Control/ Yard Limits (Boykin & Pensacola)**
Passenger Train Maximum Authorized Speed: **59 mph**

Drawbridges: **2** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **1**
Intermediate Passenger Stations: **3**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



Tallahassee Subdivision:
Chattahoochee-West Baldwin

NO-BUILD INFRASTRUCTURE

Miles: **189.5**

Movement Authority:
**Centralized Traffic Control (West Baldwin-Tallahassee GF&A Conn.),
Track Warrant Control (Tallahassee GF&A Conn.-North Chattahoochee YL)
Yard Limits (North Chattahoochee-South Chattachoochee**

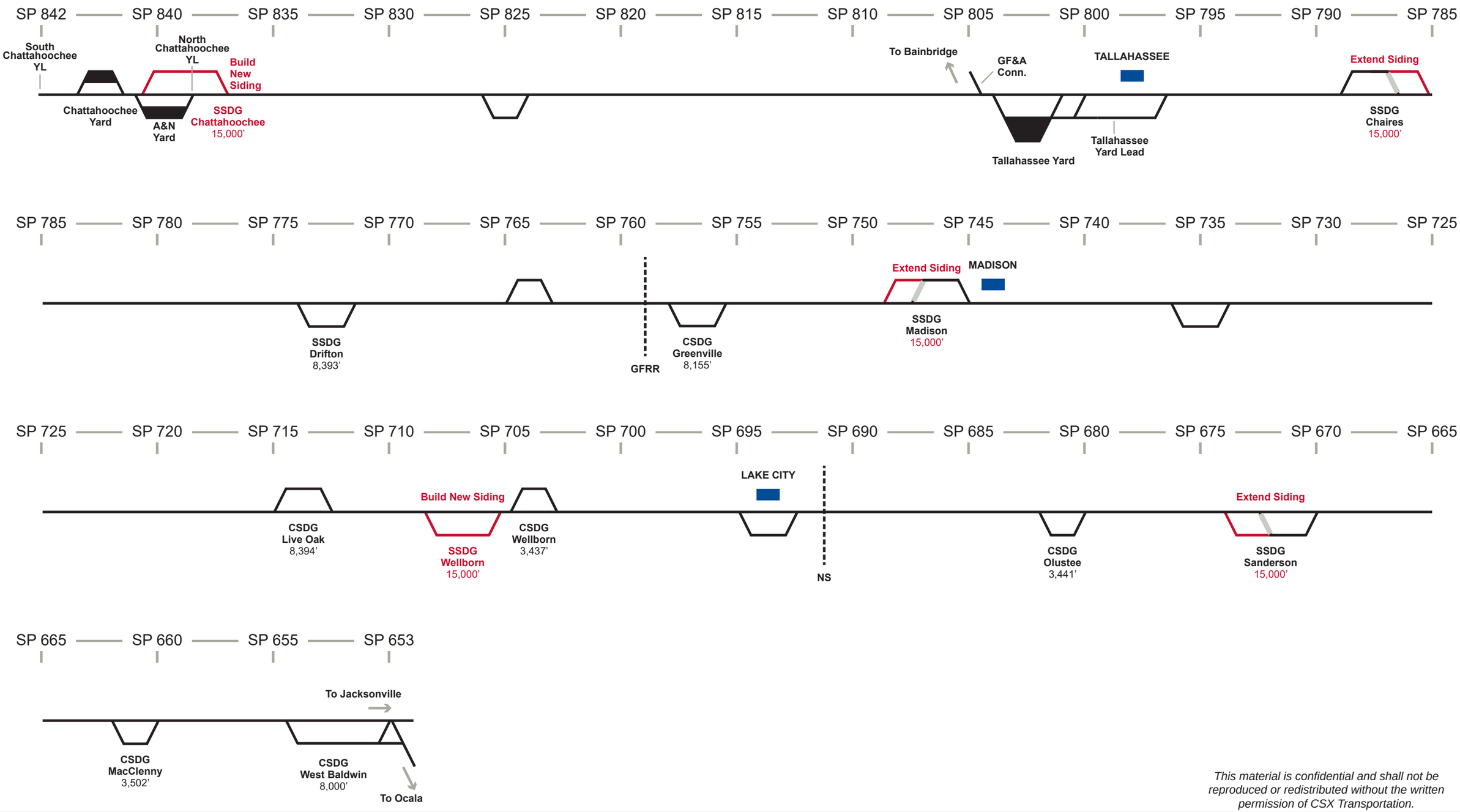
Passenger Train Maximum Authorized Speed: **59 mph**

Drawbridges: **0** (Average Daily Openings shown in parentheses)

At-Grade Rail Crossings: **2**

Intermediate Passenger Stations: **3**

- Existing Track
- New Track
- Retired Track
- Non-CSX Lines
- Passenger Station Platform



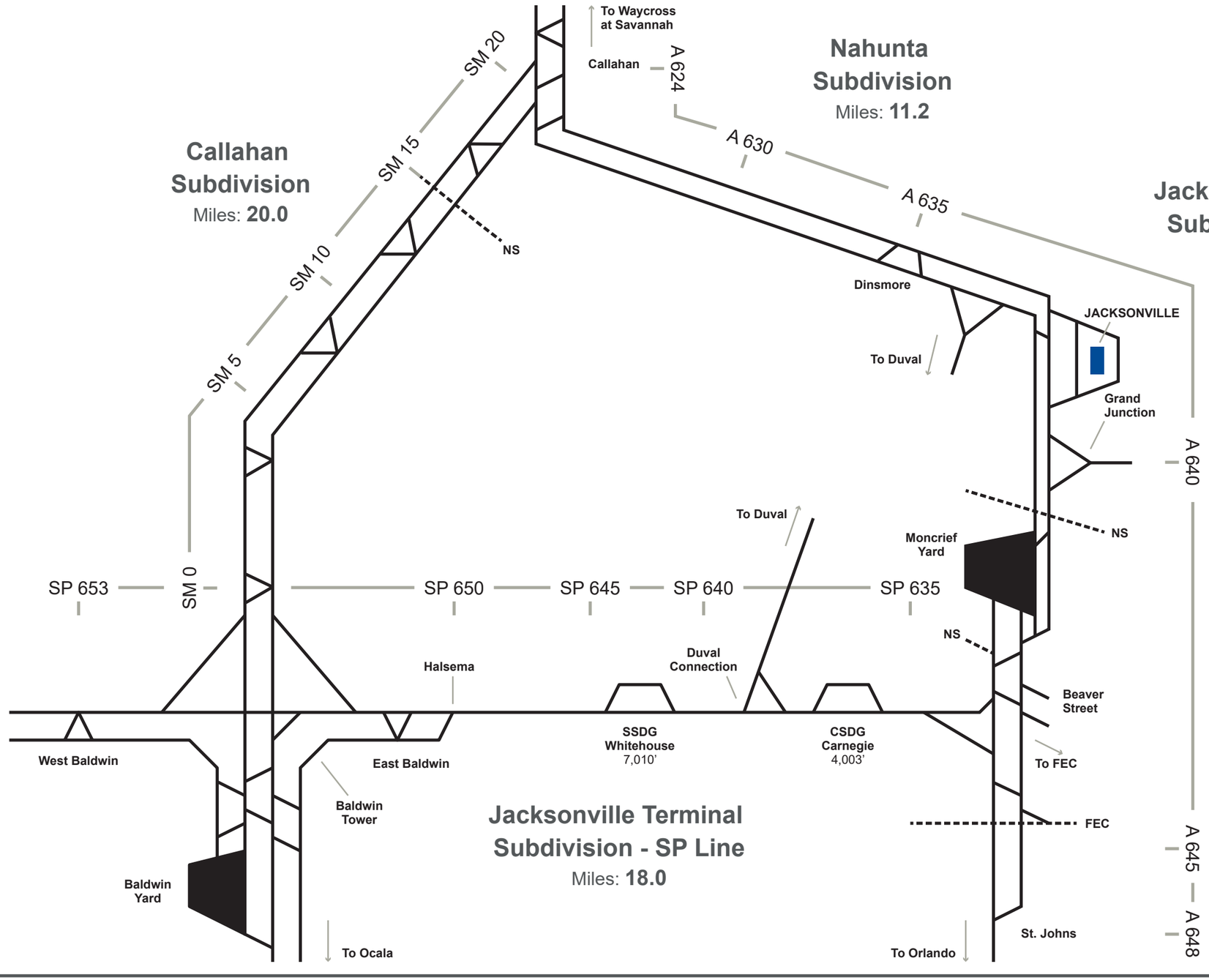
Jacksonville Terminal

NO-BUILD INFRASTRUCTURE

Miles: **Noted below**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **0** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **4**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



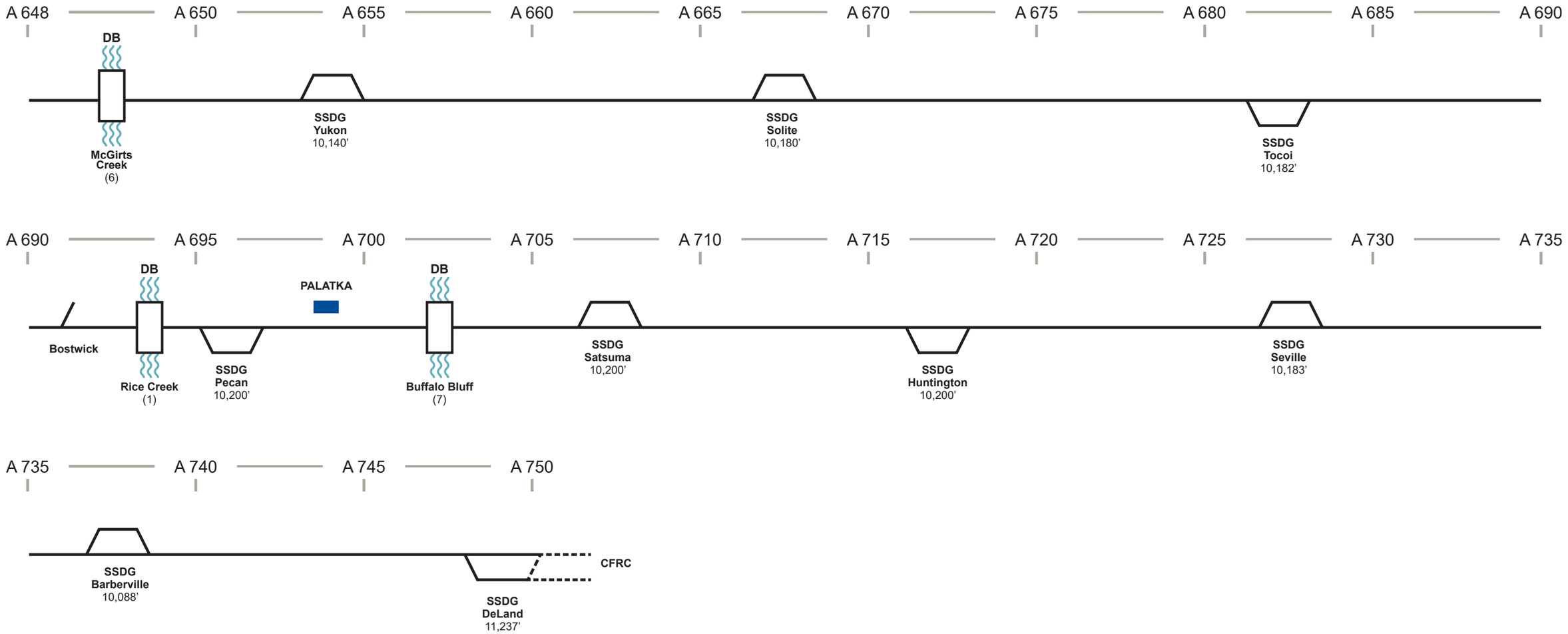
Sanford Subdivision:
St. Johns-DeLand

NO-BUILD INFRASTRUCTURE

Miles: **101.4**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **3** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



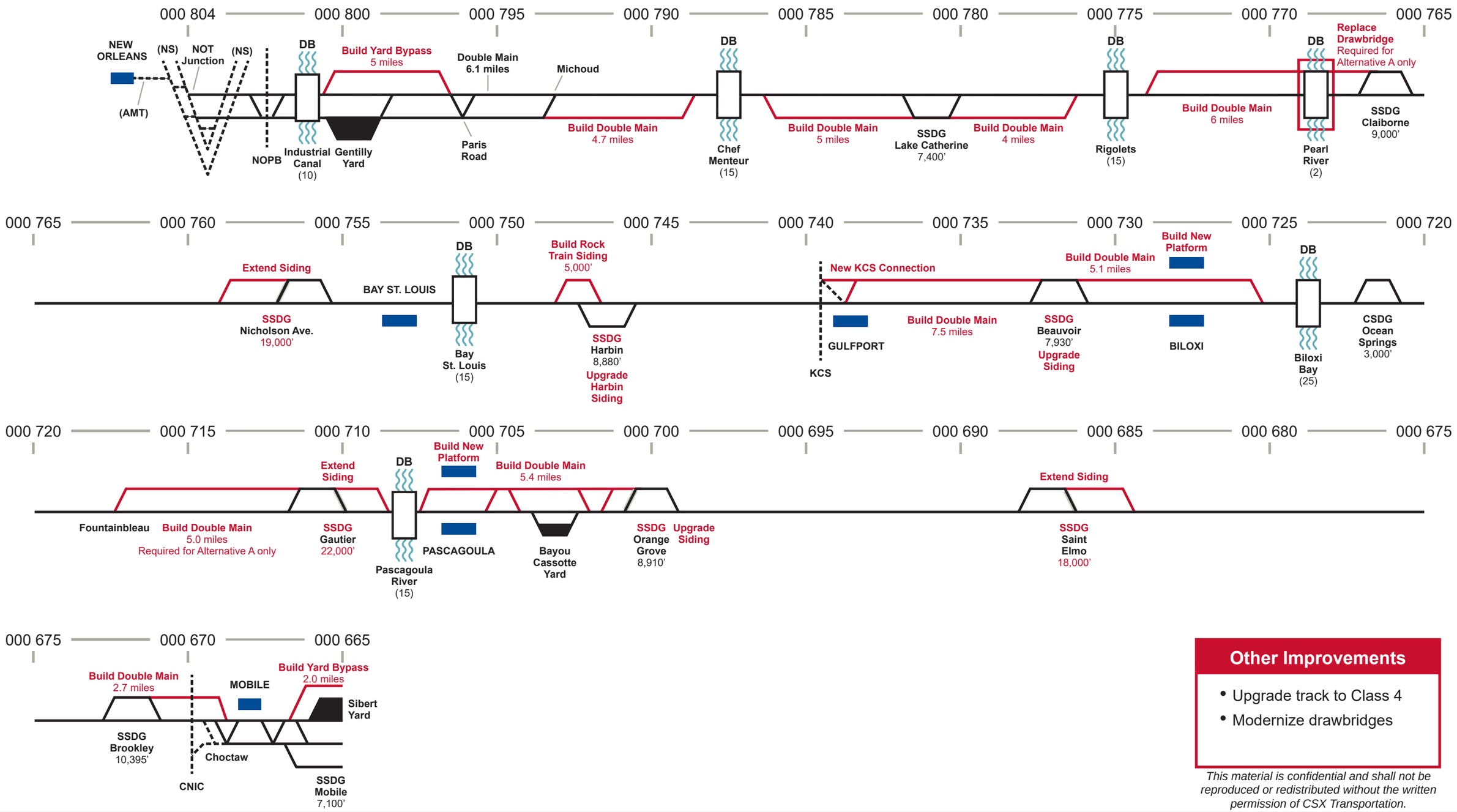
NO&M Subdivision:
New Orleans-Mobile

BUILD INFRASTRUCTURE
ALTERNATIVE A

Miles: **138.5**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **7** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **4**
Intermediate Passenger Stations: **5**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



Other Improvements

- Upgrade track to Class 4
- Modernize drawbridges

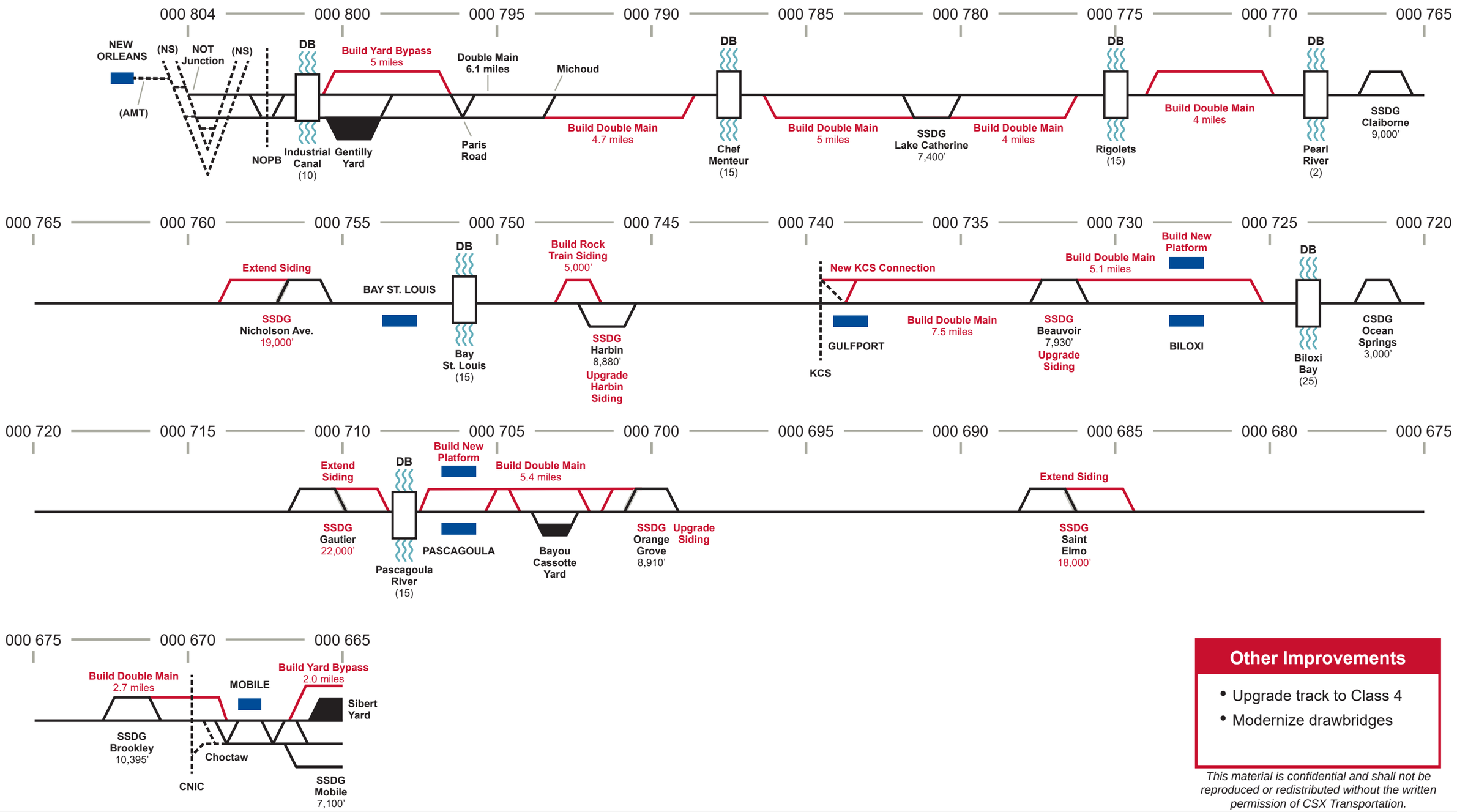
NO&M Subdivision:
New Orleans-Mobile

BUILD INFRASTRUCTURE
ALTERNATIVE A1

Miles: **138.5**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **7** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **4**
Intermediate Passenger Stations: **5**

- Existing Track
- New Track
- Retired Track
- Non-CSX Lines
- Passenger Station Platform



Other Improvements

- Upgrade track to Class 4
- Modernize drawbridges

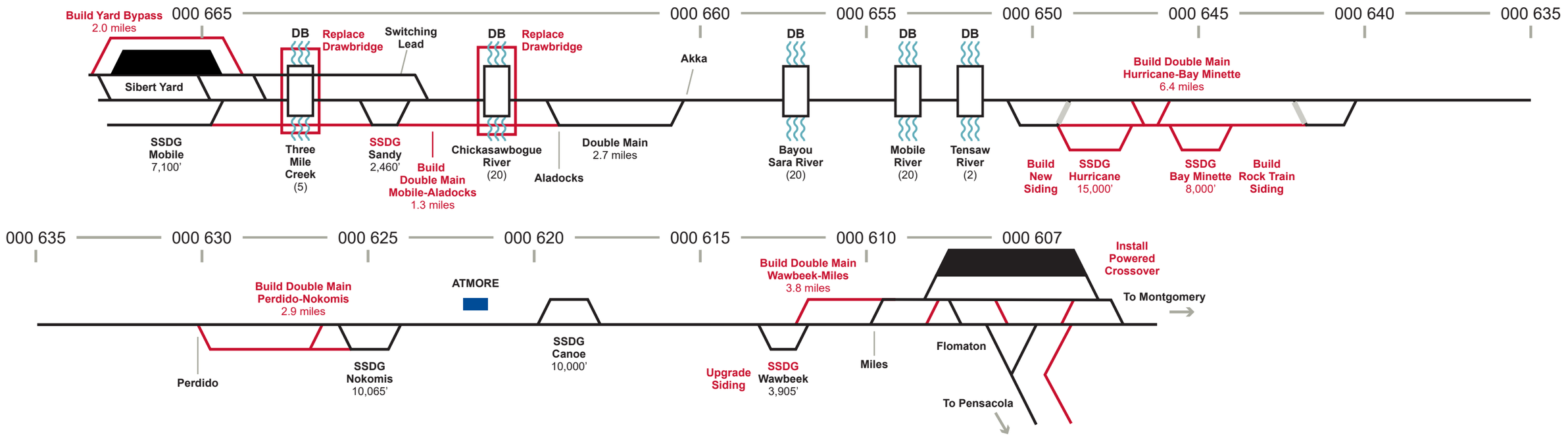
M&M Subdivision:
Mobile-Flomaton

BUILD INFRASTRUCTURE

Miles: **58.2**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **5** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



Other Improvements

- Upgrade track to Class 4
- Modernize drawbridges

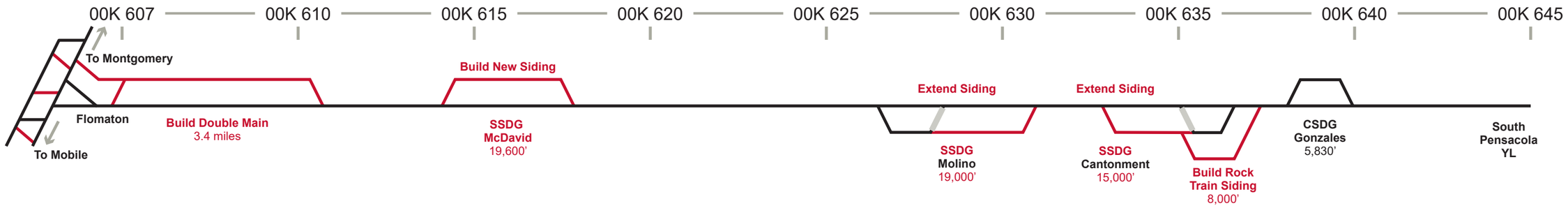
PD Subdivision:
Flomaton-South Pensacola

BUILD INFRASTRUCTURE

Miles: **37.8**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **59 mph**

Drawbridges: **0** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **0**

- Existing Track
- New Track
- Retired Track
- Non-CSX Lines
- Passenger Station Platform



Other Improvements

- Upgrade track to Class 4
- Install signals/PTC

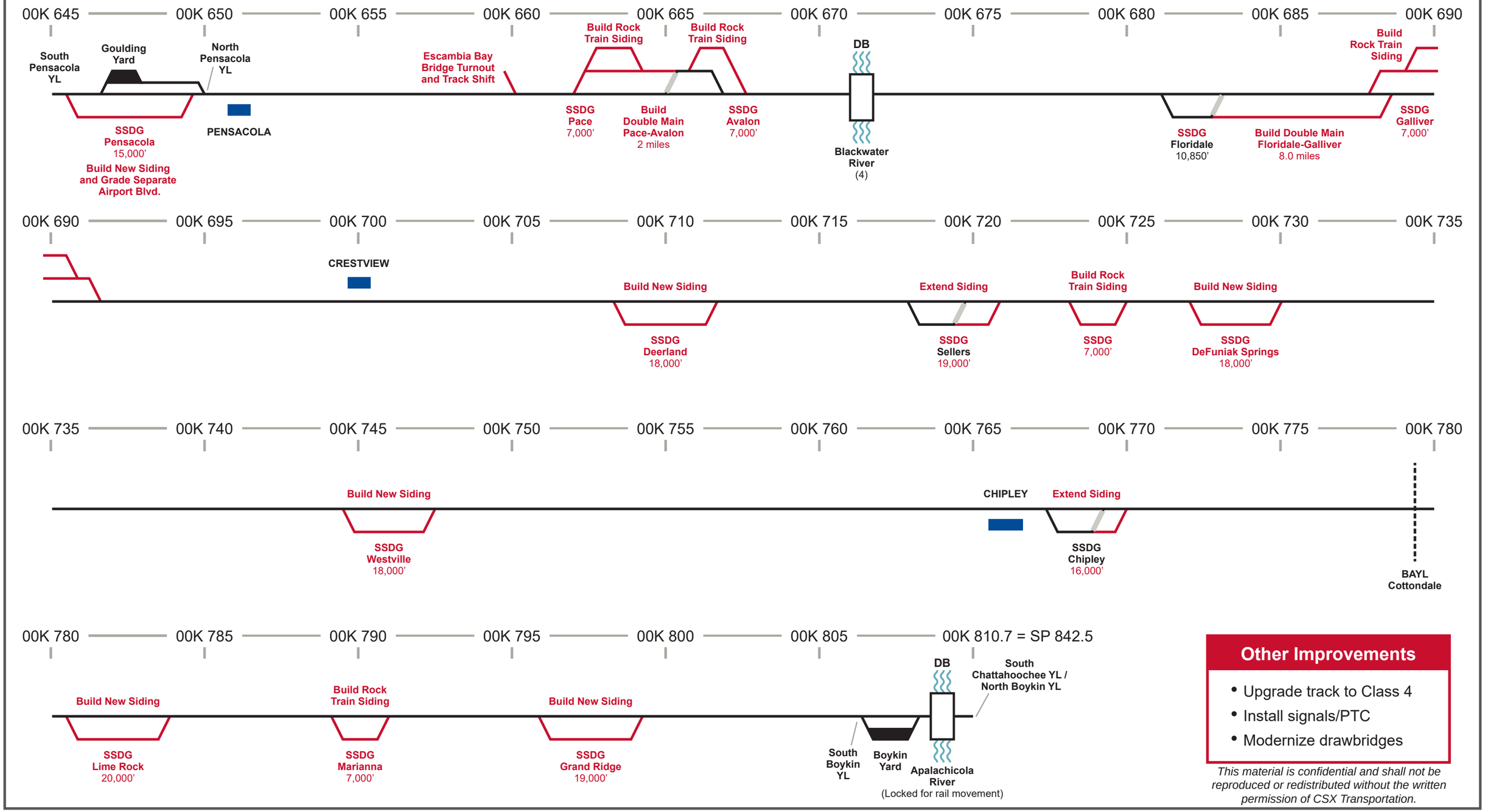
P&A Subdivision:
South Pensacola-Chattahoochee

BUILD INFRASTRUCTURE

Miles: **165.7**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **59 mph**

Drawbridges: **2** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **1**
Intermediate Passenger Stations: **3**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



Other Improvements

- Upgrade track to Class 4
- Install signals/PTC
- Modernize drawbridges

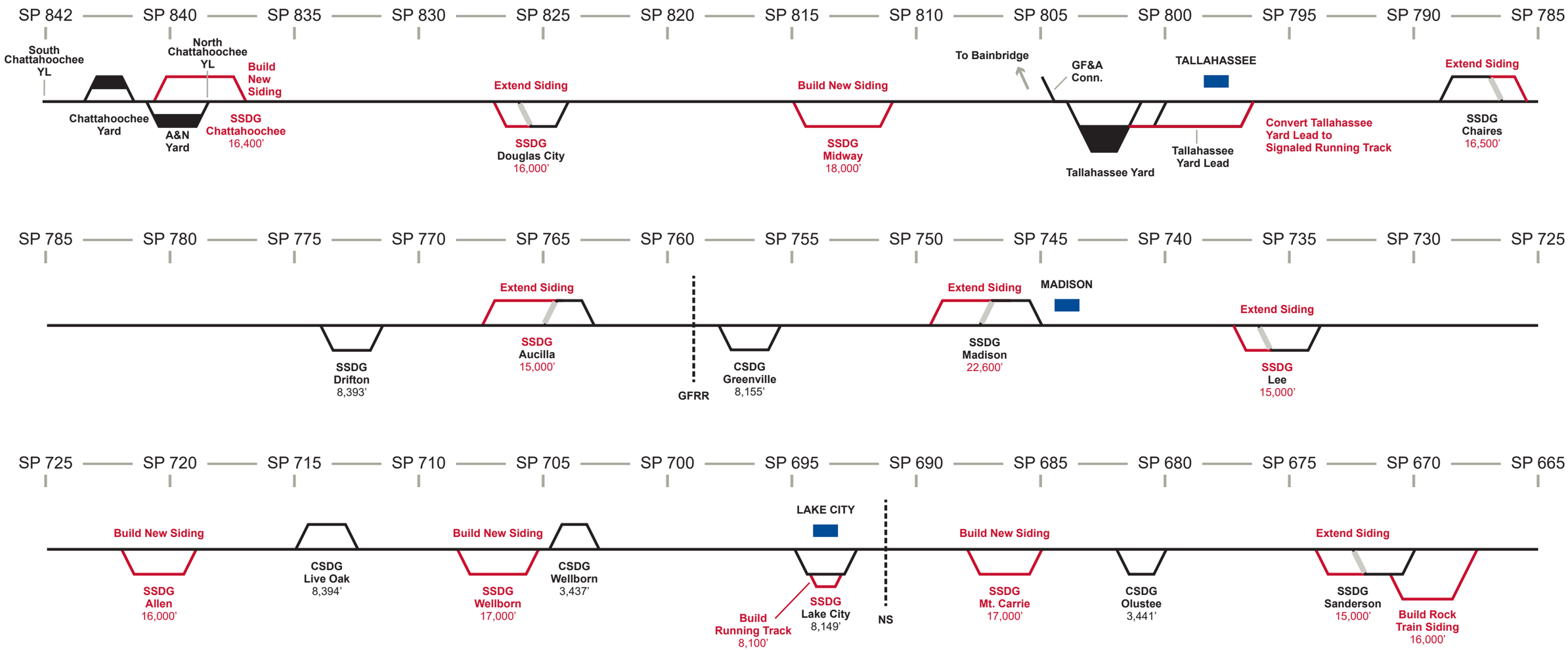
Tallahassee Subdivision:
Chattahoochee-West Baldwin

BUILD INFRASTRUCTURE

Miles: **189.5**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed:
59 mph (to be upgraded to **79 mph** Tallahassee-West Baldwin)

Drawbridges: **0** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **2**
Intermediate Passenger Stations: **3**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



Other Improvements

- Upgrade track to Class 4
- Install/upgrade signals/PTC

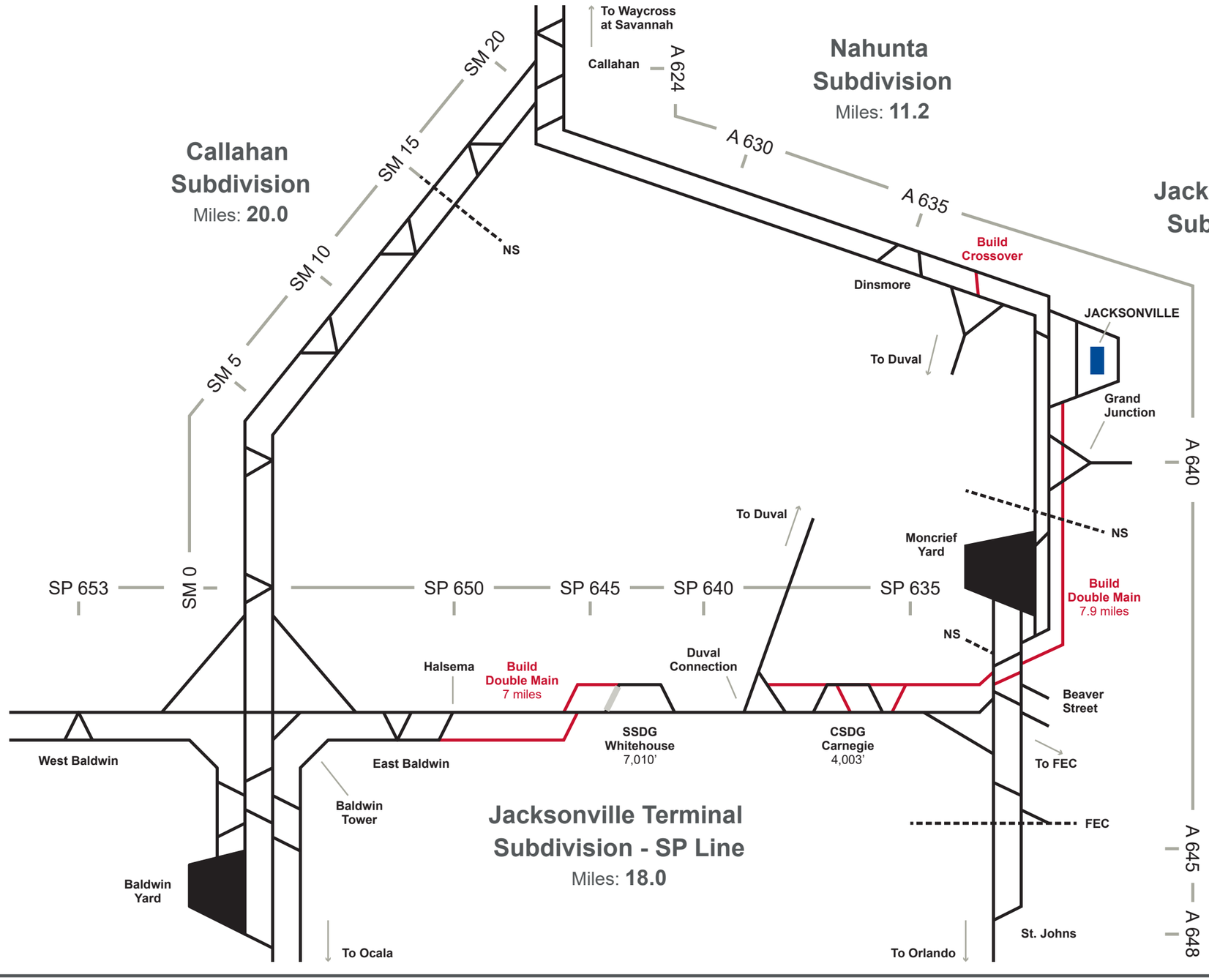
Jacksonville Terminal

BUILD INFRASTRUCTURE

Miles: **Noted below**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **0** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **4**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



Other Improvements

- Upgrade track to Class 4
- Upgrade signals/PTC

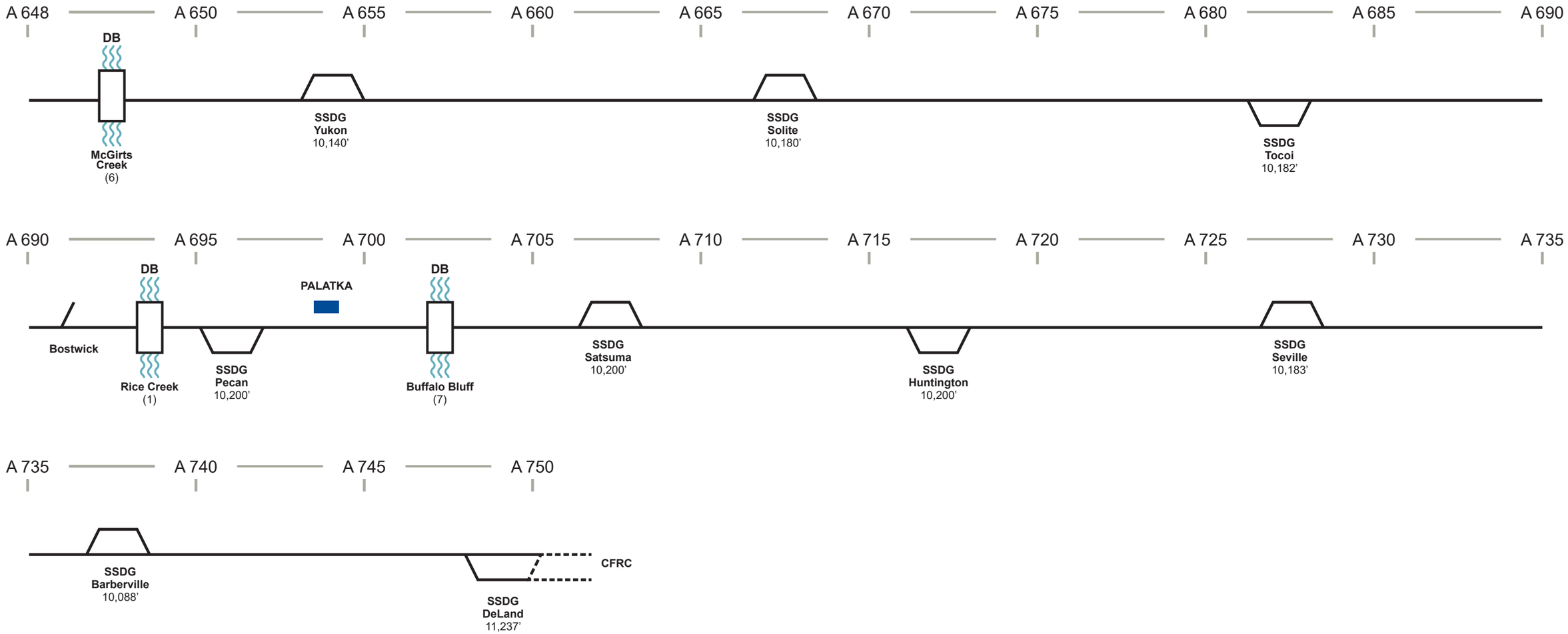
Sanford Subdivision:
St. Johns-DeLand

BUILD INFRASTRUCTURE

Miles: **101.4**
Movement Authority: **Centralized Traffic Control**
Passenger Train Maximum Authorized Speed: **79 mph**

Drawbridges: **3** (Average Daily Openings shown in parentheses)
At-Grade Rail Crossings: **0**
Intermediate Passenger Stations: **1**

Existing Track
New Track
Retired Track
Non-CSX Lines
Passenger Station Platform



Other Improvements

- Modernize drawbridges

Appendix C CSX Cost Estimates

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Gulf Coast Amtrak Service Restoration
New Orleans to Orlando
Estimate Summary 8-11-16

	Subdivision	MP Limits	Build 1A (one RT passenger train)	Build A (two RT passenger trains)
South Pensacola to Deland (00K 645 - A 750)				
Track Structure Upgrade	Multiple		$ 77	$ 77
Modernize Draw Bridge - Sanford	Multiple		$ 10	$ 10
Signal Upgrades/PTC	Multiple		$ 86	$ 86
Capacity Subtotal	Multiple		$ 631	$ 631
Dinsmore XO	Jax Terminal	A 635.2	x	x
Grand Jct. to Duval Double Track	Jax Terminal	SP 640 - A 640	x	x
Extend Halsema	Jax Terminal	SP 650 - SP 646.3	x	x
Extend SE Whitehouse siding	Jax Terminal	SP 644.6 - SP 646.36	x	x
Extend Sanderson siding	Tallahassee	SP 671.8 - SP 672.8	x	x
Sanderson running track	Tallahassee	SP 667.7 - SP 670.8	x	x
Extend Lake City	Tallahassee	SP 685.16 - SP 688.42	x	x
Lake City running track	Tallahassee	SP 693.5 - SP 695.1	x	x
Wellborn Siding	Tallahassee	SP 704.8 - SP 708.5	x	x
Live Oak Siding	Tallahassee	SP 718.73 - SP 721.8	x	x
Extend Lee siding	Tallahassee	SP 736.11 - SP 737.45	x	x
Madison Siding	Tallahassee	SP 746.5 - SP 748.8	x	x
Extend Aucilla siding	Tallahassee	SP 765.0 - SP 767.1	x	x
Extend Chaires siding	Tallahassee	SP 787.13 - SP 785.7	x	x
Upgrade Tallahassee Running Track	Tallahassee	SP 798.8 - SP 802	x	x
Midway Storage Siding	Tallahassee	SP 811.6 - SP 813.36	x	x
Extend Midway siding	Tallahassee	SP 811.64 - SP 814.6	x	x
Extend Douglas City siding	Tallahassee	SP 826.4 -SP 827.8	x	x
Chattahoochee Siding	Tallahassee	SP 837.7 - SP 840.8	x	x
Chipley to Crestview siding	P&A	00K 796.4 - 00K 800	x	x
Marianna Storage Siding	P&A	00K 789.6 - 00K 791	x	x
Marianna Siding	P&A	00K 779.9 - 00K 783.7	x	x
Extend Chipley Siding	P&A	00K 770.1 - 00K 769.1	x	x
Extend Westville Siding	P&A	00K744.4 - 00K 747.8	x	x
Extend DeFuniak Springs	P&A	00K 726.6- 00K 729.9	x	x
DeFuniak Springs Storage Siding	P&A	00K 723.5 - 00K 724.8	x	x
Extend Sellers	P&A	00K 717.9 - 00K 721.5	x	x
Deerland Siding	P&A	00K 708.3 - 00K 711.7	x	x
Galliver Storage Siding	P&A	00K 690.8 - 00K 689.3	x	x
Connect Floridale to Galliver	P&A	00K 690.9 - 00K 682.9	x	x
Pensacola Storage Track	P&A	00K 666.8-667.1	x	x
Mulat siding	P&A	00K 663.6	x	x
Connect Pace to Avalon Siding	P&A	00K 663.5 - 00K 665.2	x	x
Escambia Bay Bridge Turnout and Track Shift	P&A	00K 659.2 - 00K 659.4	x	x
Pensacola Run Around	P&A	00K 646 - 00K 648.8	x	x
Grade Separate Airport Rd	P&A	00K 645.9	x	x
South Pensacola to Deland (00K 645 - A 750) Subtotal			**$765 - $845**	**$765 - $845**

Gulf Coast Amtrak Service Restoration
New Orleans to Orlando
Estimate Summary 8-11-16

	Subdivision	MP Limits	Build 1A (one RT passenger train)	Build A (two RT passenger trains)
Bay Minette to South Pensacola (000 640 - 00K 645)				
Track Structure Upgrade	PD		$ 13	$ 13
Signal Upgrades/PTC	PD		$ 7	$ 7
Capacity Subtotal	Multiple		$ 220	$ 220
Extend Cantonment siding	PD	00K 633.5 - 00K 636.3	x	x
Extend Flomaton Double Track	PD	00K 607.3 - 00K 610.6	x	x
Cantonment Storage Siding	PD	00K 635 - 00K 636.5	x	x
Extend Molino Siding	PD	00K 630.8 - 00K 627.2	x	x
Construct siding @ McDavid	PD	00K 617.4 - 00K 613.7	x	x
Upgrade Flomaton to Dispatcher Control	M&M	000 606.6	x	x
Extend Wawbeek siding	M&M	000 613.1 - 000 609.3	x	x
Connect Nokomis to Perdido	M&M	000 629.4 - 000 626.5	x	x
Mobile Bypass	M&M	000 666 - 000 664.1	x	x
Bay Minette to South Pensacola (000 640 - 00K 645) Subtotal			**$228 - $252**	**$228 - $253**

New Orleans to Bay Minette (000 801 - 000 640)				
Track Structure Upgrade	Multiple		$ 35	$ 35
Modernize Draw Bridges	Multiple		$ 28	$ 28
Capacity Subtotal	Multiple		$ 852	$ 1,038
Bay Minette Storage siding	M&M	000 644.7 - 000 646.2	x	x
Extend Hurricane to Bay Minette	M&M	000 649.2 - 000 642.8	x	x
Buid Hurricane siding	M&M	000 649.2 - 000 647.3	x	x
Double Track Chickasabogue Bridge	M&M	000 662.9 - 000 .663.5	x	x
Extend Three Mile Creek to Sandy Siding	M&M	000 664.2 - 000 663.9	x	x
Connect Choctaw to Brookley	NO&M	000 667 - 000 669.7	x	x
Extend NE Saint Elmo Siding	NO&M	000 683.9 - 000 685.6	x	x
Extend Orange Grove to Pascagoula River Bridge	NO&M	000 701.2 - 000 706.6	x	x
Extend NE Gautier to Pascagoula River	NO&M	000 709.8 - 707	x	x
Extend SE Gautier	NO&M	000 712.7 - 000 716.5		x
Double track from Biloxi Bay drawbridge to Beauvoir siding	NO&M	000 725.1 - 000 730.2	x	x
Extend Beauvoir to KCS RR	NO&M	000 731.9 - 000 739.4	x	x
Upgrade Harbin to a Signaled Siding	NO&M	000 745 - 000 746.9	x	x
Harbin Siding New Rock Storage Track	NO&M	000 746.3 - 000 747.2	x	x
Extend SE Nicholson Ave	NO&M	000 756.4 - 000 758.2	x	x
Extend SE Claiborne to Rigolets	NO&M	000 768.9 - 000 774.1	modified	x
Chef Menteur to Rigolets	NO&M	000 787 - 000 776	x	x
Extend Michoud to Chef Menteur	NO&M	000 793.1 - 000 788.4	x	x
Gentilly Yard Bypass	NO&M	000 801 - 000 796.1	x	x
New Orleans to Bay Minette (000 801 - 000 640) Subtotal			**$870 - $960**	**$1,045 - $1156**

Route Total			**$1,863 - $2057**	**$2038 - $2254**

Eliminate 2 Movable Bridges				
Pearl River Double Track Fixed **Option**		000 768.7	$ 800	$ 800
Rigolets Bridge Double Track Fixed **Option**		000 775	$ 880	$ 880

EXHIBIT H

Part 1. High Rail Summary Report

High Rail Summary Report
High Rail Trip
December 6, 2004
Welka (Mobile), AL – New Orleans, LA

Participants:

- Chuck Martin, Manager Corridor Planning, CSX
- Pete Delfox, Assistant to Martin, CSX
- Alan Snapp, Regional Manager, CSX
- Ken Durbin, Asst. Div. Engineer, CSX
- Tom Sayrosz-Bielski, CANAC
- Lydia Pinkas, CANAC
- Randy Carmichael, BKI
- Jim Geihsler, BKI

Initial Preparations

Track charts, timetables, and actual stringlines of traffic were provided. Prior to the trip a preliminary list of possible locations of new sidings was prepared (see attached in Part 2) to be reviewed with CSX staff and site inspection. We met at Mobile on the evening of December 5th and discussed the planned activities.

Schedule and Rail Traffic

On Monday December 6th, we met at 5:00 am and drove to the CSX Government St. Offices, where we received a safety briefing and then set off for Flomaton, Alabama (about 60 miles away). We arrived there and "set on" near Welka (MP 603) and started south towards Mobile.

We spent much of the morning in sidings waiting for northbound trains to pass on the mainline. We encountered trains in both directions, and by about 10:30 we had gone less than 20 miles. Somewhere around Nokomis we left the tracks and drove back to the Government Street office. We did not see the drawbridge that was the involved in *Sunset Limited* crash in the mid 1990's.

Around noontime, we drove to the north end of Siebert Siding, "set on", and continued south. We got behind a southbound freight headed for New Orleans and made good time to Gentilly Yard, without any stops except those required by traffic conditions.

Railroad (Welka– Mobile)

It was previously determined in the study that the railroad north of Mobile should also be modeled because of an influence that this section of tracks has on the service south of Mobile.

We entered the tracks near Welka, Alabama MP 603 on a stretch of double track approaching the Flomaton Yard from the north. The Flomaton yard is where the westbound Sunset route converges from the east onto the CSX NO&M tracks traveling south from Montgomery. Significant portions of the alignment were on berms up to 20 feet tall. There were also areas that may be considered wetlands. Photographs of some of these areas were taken. The track from Welka to Mobile did have some curves that exceed 3 degrees. Based upon timetable speeds of 50 mph, these curves are speed limiting. The rail was welded with the age and weight shown on the track charts.

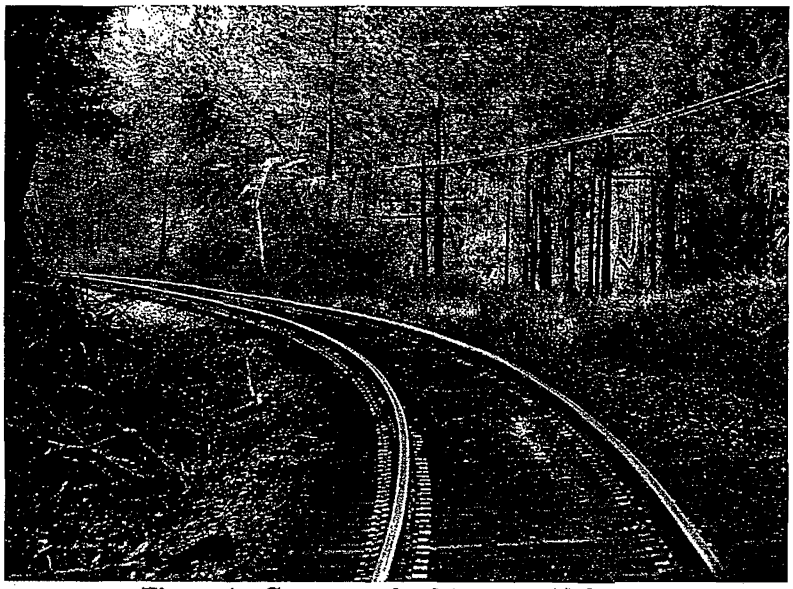

Figure 1: Curve north of Atmore, Alabama

Railroad (Mobile- New Orleans)
The railroad is generally in decent shape for a secondary main that is freight only, except for the six day per week Sunset Limited. This portion of the alignment is generally straight and flat. Curves do not appear to limit speed. It traverses a difficult area of tidal wetlands, with a great deal of fill and numerous bridges.

Sidings
CSX was questioned about the class of track in the sidings. Much of the track is maintained to the Class of track equivalent to the speed rating of the turnouts into the

siding, suggesting that to upgrade sidings both the turnouts and track would need to be upgraded. For example, the largest turnout size encountered was number 15. Most of the sidings have 25 mph speed limits and are also maintained to these standards. The 8085' Beauvoir siding is limited to 10 mph because of the turnout sizes.

Figure 2: No. 15 turnout at siding

Figure 3: Intermediate Crossover near MP 667 (No. 10 turnout)

The overall prevalent turnout size was no. 15. Smaller turnouts exist as intermediate crossovers as in the Choctaw siding (MP 667).

It appears possible to connect the Choctaw Siding to the Brookley siding should the modeling suggest this would be beneficial. However the IC interlocking in this section would not allow this to be used for standing trains.

The wetlands in the Rigolets make it difficult to visualize any new sidings. The Northside Siding (MP 773) is less than a mile long. A second visit may indicate that extension may be possible.

Signals

Pole lines are present north of Mobile, but no longer in service. The signal system and communication system use telephone land lines to base stations located along the tracks. These base stations then transmit to the signals and handle the radio communications. Track circuits are used to identify presence and continuity. The pole lines were only recently taken out of service.

Signals were located at the entrances and exits of sidings, prior to bridges, and other locations according block sizes.

Drawbridges

All the drawbridges are speed limited to near 30 mph. The miter rails where the rails of the movable span meet the fixed rails are the apparent cause of this limitation

Operations

In discussions with CSX the position offered by Chuck Martin was that capacity was limited and trains were regularly delayed, but the RR did not choose to fix the problem (increase capacity). Given that situation, it was not realistic to expect the SRRTC to be able to run its trains on time. The fact that they couldn't would further adversely affect CSX train operations. The inference was that the only way that SRRTC could run its trains without adversely affecting CSX was to fix all of CSX's capacity problems.

According to the New Orleans Terminal Manager, Tom May, train length over the subdivision is limited to 8,500 ft., the length of the shortest siding.

In Mobile, near the state docks, CSX was using the mainline to store (or construct trains).

Figure 4: Main line track in Mobile occupied by standing train

The rail traffic can be visualized using the attached stringlines. On some days, each siding within 50 miles of New Orleans may be occupied by southbound trains. Many of the sidings are almost occupied continuously.

Grade Crossings

The number of grade crossings at some locations in Mississippi was astounding. Some appeared to be necessary because the roads were not connected to any other. On the other hand, it appears there is potential for consolidation and closure.

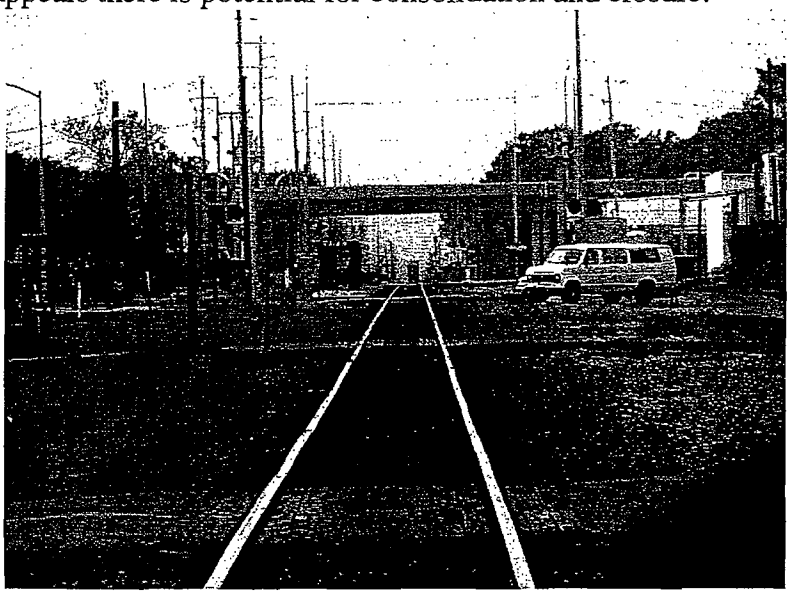

Figure 5: Grade Crossings on Gulf Coast

Gentilly

Some incremental improvements have been made in recent years, but the facility appears to lack sufficient capacity. Some yard tracks have been recently added, and the tower in the middle of the yard has been removed. According to the Terminal Manager, the inability of UP to take trains seemed to be of equal significance. Whose capacity is lacking here? CSX or UP?

All trains originate and terminate at Gentilly. There are no run-throughs. No NB train is longer than 7,500 feet, the length of the longest track in Gentilly (RD 6). No doubles are made. The train is complete when the crew goes to work. NS limits all southbound trains to 8,000 ft.

The longest track in the yard is RD6, at 7,500 ft. The Terminal Manager also reports that RD 5 and 4 are 7,500 ft., followed by RD 3 at 7,200 ft., RD 2 at 6,500, and RD 1 at 6,500 ft.

The Main Track consists of 4,400 feet south of the intermediate crossover and 1,925 feet to the north. This totals 6,325 feet. This is less than the length of the next 2 track combinations, but does not account for what would fit between the clearance points in the two segments. The passing track and the pan track (together they would be Track 2) are a total of 6,875 feet. South Yard 1 plus the drill track are 6,375 feet and the combination of South Yard 3 and North Yard 2 is 6,050 feet. All other tracks are divided by the ladder tracks at the center of the yard.

Gentilly builds 10 NB trains per day, 6 manifest and 4 intermodal. Southbound, there 5 trains to the UP, 1 to CN, 1 to KCS, and 2 to the NOPB.

Items to Review

Upon completion of the high rail inspection trip, the following items may be reviewed in the preparation of future submittals.

- Sidings and turnouts can be upgraded for speed in locations where modeling suggests is necessary for passenger service.
- Signal locations and block size can be reviewed to allow higher speeds on locations where the max speed is not 79 mph.
- The status of grade crossings closures can be reviewed.
- The use of higher speed miter rails can be researched.

Part 2: Preliminary Siding Improvement Program

Preliminary Siding Improvement Program Mobile to Gentilly Yard

Preliminary Draft
M C Holowaty
September 28, 2004

An initial evaluation of the existing sidings between Mobile and Gentilly Yard has been completed. The existing sidings and their primary characteristics: length in miles, effective length in feet, and center to center spacing are summarized in Table 1. The existing sidings average 1.51 miles in length, the effective length of the sidings (taken from the Employees Timetable) is approximately an average of about 7980 feet. Only two of the sidings have an effective length of greater than 10,000 feet. The midpoints of the existing sidings are about 12.3 miles apart.

New and Lengthened Siding Characteristics

An initial program to increase the average length of the sidings and decrease the average spacing of the siding midpoints was undertaken. The review utilized the July 2003 Draft "Physical Inventory" document to review the sidings and the location of principal grade crossings and waterways.

The initial program would:

1. Construct three new sidings,
    a. Fowl River[1],
    b. Little Franklin, and
    c. New Ocean Springs.
2. Remove two existing sidings,
    a. Saint Elmo, and
    b. Ocean Springs.
3. Lengthen eight existing sidings,
    a. Brookley,
    b. Grove,
    c. Gautier,
    d. Beauvoir,
    e. Harbin,
    f. Nicholson Avenue,
    g. Claiborne, and
    h. Lake Catherine.

The characteristics of the revised sidings are summarized in Table 2. The revised sidings average 2.41 miles in length, and are spaced on average about 9.2 miles apart. The modifications to existing sidings and the construction required to the interlocking at each end are summarized in Table 3.

[1] The new sidings were named after bodies of water or grade crossings in the vicinity of the new sidings.

Table 1: Characteristics of Existing Sidings

Siding Name	exist	exist	mp length	mid point	dist between mid points	effective length	car lengths
Mobile				666.7			
Brookley	669.7	671.8	2.1	670.8		10395	236
Saint Elmo	685.6	687.3	1.7	686.5	15.7	8855	201
Grove	699.4	701.2	1.8	700.3	13.8	8910	203
Gautier	709.8	711.4	1.6	710.6	10.3	7865	179
Ocean Springs	722.5	723.1	0.6	722.8	12.2	3080	70
Beauvoir	730.3	731.9	1.6	731.1	8.3	8085	184
Harbin	745.1	746.8	1.7	746.0	14.9	8910	203
Nicholson avenue	754.2	756.4	2.2	755.3	9.3	8635	196
Claiborne	766.3	768.1	1.8	767.2	11.9	10020	228
lake Catherine	780.3	781.8	1.5	781.1	13.8	7480	170
Michoud (start double track)	793.2	0	0	793.2	12.2		
Gentilly				800.4			
					Avg effective Length =	**7982'**	
			1.66	**= avg length**	**12.26**	**= avg distance apart**	

Table 2: Characteristics of Initial New Siding Configuration

Siding Name	Exist	New	Exist	New	Mp Length	New Mp Length	Mid Point	New Mid Point	Distance between Mid Points Existing	Distance Between Mid Points Proposed	Effective Length Existing	Car Lengths Existing
Mobile							666.7					
Brookley	669.7	**668.5**	671.8	**671.45**	2.1	**2.95**	670.8	**670.0**			10395	236
Fowl River		**679.9**		**682.2**	0	**2.3**	0.0	**681.1**		**11.1**		
Saint Elmo	685.6	**0**	687.3	**0**	1.7	**0**	686.5	**0.0**	15.7	**0.0**	8855	201
Little Franklin		**688.9**		**691.3**		**2.4**		**690.1**		**9.0**		
Grove	699.4	**699.4**	701.2	**701.9**	1.8	**2.5**	700.3	**700.7**	13.8	**10.6**	8910	203
Gautier	709.8	709.8	711.4	**712.6**	1.6	**2.8**	710.6	**711.2**	10.3	**10.6**	7865	179
New Ocean Springs		**718.6**		**720.5**		**1.9**		**719.6**		**8.3**		
Ocean Springs	722.5		723.1		0.6		722.8	**0.0**	12.2	**0.0**	3080	70
Beauvoir	730.3	730.3	731.9	**732.7**	1.6	**2.4**	731.1	**731.5**	8.3	**12.0**	8085	184
Harbin	745.1	**744**	746.8	**747.2**	1.7	**3.2**	746.0	**745.6**	14.9	**14.1**	8910	203
Nicholson avenue	754.2	754.2	756.4	**757.25**	2.2	**3.05**	755.3	**755.7**	9.3	**10.1**	8635	196
Claiborne	766.3	**765.1**	768.1	768.1	1.8	**3**	767.2	**766.6**	11.9	**10.9**	10020	228
lake Catherine	780.3	**779.4**	781.8	781.8	1.5	**2.4**	781.1	**780.6**	13.8	**14.0**	7480	170
Michoud (start double track)	793.2	**0**	0	**0**	0		793.2	793.2	12.2	**12.6**		
Gentilly							800.4					
											7982.22	
Averages					**1.51**	**2.41**			**12.26**	**9.22**	**= avg distance apart**	

Table 3: Changes Required to Each End of Sidings – Existing and Proposed

Siding Name	Exist	New	Exist	New	Mp Length	New Length	Mid Point	New Mid Point	Dist Between Mid Points	New Dist Between Mid Points
East Brookley	Extend East To	668.5								
Brookley	669.7	**668.5**	671.8	**671.45**	2.1	**2.95**	670.8	**670.0**		
West Brookley	Extend East To	671.45								
East Fowl River	New At	679.9								
Fowl River		**679.9**		**682.2**		**2.3**		**681.1**		**11.1**
West Fowl River	New At	682.2								
East Saint Elmo	Remove	685.6								
Saint Elmo	685.6		687.3		1.7	**0**	686.5	**0.0**	686.5	**0.0**
West Saint Elmo	Remove	687.3								
East Little Franklin	New At	**688.9**								
Fowl River		**688.9**		**691.3**		**2.4**		**690.1**		**9.0**
West Little Franklin	New At	**691.3**								
East Grove	Keep At	**699.4**								
Grove	699.4	**699.4**	701.2	**701.9**	1.8	**2.5**	700.3	**700.7**	700.3	**10.6**
West Grove	Extend West To	**701.9**								
East	Keep At	709.8								
Gautier	709.8	709.8	711.4	**712.6**	1.6	**2.8**	710.6	**711.2**	710.6	**10.6**
West	Extend West	**712.6**								

Table 3: Changes Required to Each End of Sidings – Existing and Proposed

Siding Name	Exist	New	Exist	New	Mp Length	New Length	Mid Point	New Mid Point	Dist Between Mid Points	New Dist Between Mid Points
	To									
East	New At	**718.6**								
New Ocean Springs		**718.6**		**720.5**		**1.9**		**719.6**		**8.3**
West	New At	**720.5**								
East	Remove	722.5								
Ocean Springs	722.5		723.1		0.6		722.8	**0.0**	722.8	**0.0**
West	Remove	723.1								
East	Keep At	730.3								
Beauvoir	730.3	730.3	731.9	**732.7**	1.6	**2.4**	731.1	**731.5**	731.1	**12.0**
	Extend West									
West	To	**732.7**								
	Extend East									
East	To	**744**								
Harbin	745.1	**744**	746.8	**747.2**	1.7	**3.2**	746.0	**745.6**	746.0	**14.1**
	Extend West									
West	To	**747.2**								
East	Keep At	754.2								
Nicholson avenue	754.2	754.2	756.4	**757.25**	2.2	**3.05**	755.3	**755.7**	755.3	**10.1**
	Extend West									
West	To	**757.25**								
	Extend East									
East	To	**765.1**								

Table 3: Changes Required to Each End of Sidings – Existing and Proposed

Siding Name	Exist	New	Exist	New	Mp Length	New Length	Mid Point	New Mid Point	Dist Between Mid Points	New Dist Between Mid Points
Claiborne	766.3	**765.1**	768.1	768.1	1.8	**3**	767.2	**766.6**	767.2	**10.9**
West	Keep At	768.1								
	Extend East									
East	To	**779.4**								
lake Catherine	780.3	**779.4**	781.8	781.8	1.5	**2.4**	781.1	**780.6**	781.1	**14.0**
West	Keep At	781.8								
East Michoud	Keep At	793.2								
Michoud (start double track)	793.2	**0**	0	**0**	0		793.2	793.2	793.2	**12.6**

EXHIBIT I

60-1147

RESOLUTION IN SUPPORT OF THE SOUTHERN RAIL COMMISSION'S GRANT APPLICATION TO THE U.S. DEPARTMENT OF TRANSPORTATION RESTORATIONAND ENHANCEMENT PROGRAM

Sponsored by: Mayor William S. Stimpson
President Levon C. Manzie

Findings

1. The Southern Rail Commission is applying for grant funds from the U.S. Department of Transportation for its "FY18-19 Restoration and Enhancement (RE) Program" in order to facilitate the return of daily passenger rail services to the Gulf Coast.

2. If successful, the grant will provide funding for the restoration of daily Gulf Coast passenger rail service between the cities of Mobile and New Orleans.

3. Restoration of passenger rail service support economic development of the region, offer transportation choices and further benefit residents and businesses in Mobile.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MOBILE, ALABAMA that:

1. The City of Mobile supports the Southern Rail Commission ("Commission") in its effort to secure grant funding from the U.S. Department of Transportation;
2. The City's support is contingent on the Commission procuring funds from other sources to construct a passenger rail station and to undertake necessary capital improvements to the rail corridor in order to successfully accommodate freight and passenger rail.
3. That the City of Mobile's financial commitment be limited to no more than $3.048 million in expense over a three-year period beginning in 2022 and concluding in 2024. That the City's support is contingent upon completion of a freight rail study assessing the full impact that passenger rail service will

have on freight activity and the City's determination that the impact can be mitigated. That the study should include an evaluation of the impact of how freight is moved and its operability within the Port of Mobile. This evaluation should factor in the planned growth of the Port including the impact of the widening and deepening of the Mobile ship channel. That under no circumstances does the City make any commitment to find any portion of improvements to the rail lines which may be required to mitigate any current or future impact that restoring passenger rail service will have on freight activity.

4. The Mayor, Council President and City Clerk are hereby authorized and directed to execute and attest, respectively, the attached letter of support to the Department of Transportation; and
5. In the event the Commission's application is granted, and the above-stated contingencies have been met, the Mayor and the Council will provide funds sufficient to meet the City's proportional match requirements of the grant, in an amount not to exceed $3.048 million dollars.

Adopted: February 4, 2020

City Clerk

EXHIBIT J

MARCH 31, 2021

Statement from Amtrak CEO on President Biden's American Jobs Plan

This afternoon, President Biden released his American Jobs Plan, including plans for infrastructure investment, economic recovery, climate change, and social equity, and $80 billion designated specifically for rail.

Amtrak's vision to grow rail service and connect new city pairs across America rises to the urgent challenges of our time, and will provide new and improved train service to millions of additional passengers. Additionally, the Northeast Corridor (NEC), a critical transportation link for the Northeast's major metropolitan economies, has dozens of bridges, stations and tunnels that are beyond their design life and in need of immediate replacement or rehabilitation.

If Congress provides the funding proposed in the President's plan, Amtrak would be able to bring the NEC to a state of good repair and improve trip times, and would also expand Amtrak to underserved communities across the nation. This would create jobs, improve the quality of life, reduce carbon emissions and generate economic growth.

From Amtrak CEO Bill Flynn: *"President Biden's infrastructure plan is what this nation has been waiting for. Amtrak must rebuild and improve the Northeast Corridor and our National Network and expand our service to more of America. The NEC's many major tunnels and bridges – most of which are over a century old – must be replaced and upgraded to avoid devastating consequences for our transportation network and the country. In addition, Amtrak has a bold vision to bring energy-efficient, world-class intercity rail service to up to 160 new communities across the nation, as we also invest in our fleet and stations across the U.S. With this federal investment, Amtrak will create jobs and improve equity across cities, regions, and the entire country – and we are ready to deliver. America needs a rail network that offers frequent, reliable, sustainable and equitable train service. Now is our time, let's make rail the solution."*

FOR MORE INFORMATION

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About Amtrak®

For 50 years, Amtrak has connected America and transformed transportation by modernizing train travel, and building for the future. Amtrak will continue to play an important role in the national transportation network for the next 50 years and beyond by operating a safe, environmentally efficient and fiscally responsible business by providing travelers with an experience that sets a new standard. Book travel, check train status, access your eTicket and more through the Amtrak app. Learn more at Amtrak.com and connect with us on Twitter, Instagram, Facebook and LinkedIn.

« U.S. Transportation Secretary Joins Governor Ralph Northam to Announce Major Milestone for Transforming Rail in Virginia

Amtrak: Delivering a New Standard of Travel »

EXHIBIT K

MARCH 16, 2021

Amtrak Seeks to Begin Gulf Coast Service

Amtrak seeks authority to begin service between New Orleans and Mobile or have CSX and NS show why they cannot do so

WASHINGTON – After more than five years of data-driven and federally led studies, Amtrak has initiated a process before the U.S. Surface Transportation Board (STB) to require CSX Transportation (CSX) and Norfolk Southern Railway (NS) to permit the operation of two daily Amtrak trains between New Orleans and Mobile starting in 2022. Under STB procedures, CSX and NS will be required to provide Amtrak access to their railroads for this service or prove to the public why they cannot successfully host these trains in accordance with the law.

Amtrak has a legal right to use this route, which has sufficient capacity to host these trains, and up to $66 million in targeted improvements to support the new intercity passenger rail service along the line awaits action. These potential investments have been reviewed, approved and funded by the Federal Railroad Administration (FRA), Amtrak and others.

In the filing, Amtrak asks for expedited consideration and an order allowing twice daily round-trips starting on or about Jan. 1, 2022. These trains would operate for the Southern Rail Commission (SRC), a federally created entity representing Alabama, Louisiana and Mississippi.

The FRA, Amtrak, CSX, NS, SRC and others began work on returning service to the Gulf Coast in 2015, producing an FRA Gulf Coast Working Group plan in 2017 that laid out the necessary steps to beginning Amtrak service on the route and laying out potential improvements, many of which have been funded since 2019.

“Amtrak has a right to use these railroads’ tracks but, unfortunately, we have been unable to reach agreement after years of effort just to operate two short and quick round trip Amtrak trains,” said Dennis Newman, Amtrak Executive Vice President for Planning and Asset Development.

“It is time for the the STB to step in to protect Amtrak’s rights to use freight railroad tracks to support service across America. The SRC and other state or regional groups look to partner with Amtrak to deliver safe, reliable and relevant service and while we often reach agreements and co-invest with freight railroads without the STB’s involvement, we need the STB to bring this protracted process to a close.

“Elsewhere in the U.S., both CSX and NS successfully serve Amtrak and freight customers, coexisting and even thriving where there are more freight trains and less infrastructure than what is available on the Gulf Coast today,” he continued.

“We want to deliver this service next year, not some day far away, and the STB is the proper forum for resolution,” Newman added.

Before Hurricane Katrina, Amtrak served the Gulf Coast region via three different services, two of which successfully ran daily between the same city pairs as the proposed Gulf Coast service, along with the tri-weekly *Sunset Limited* (Trains 1 & 2). The *Sunset Limited* was suspended between New Orleans and Florida when Katrina washed away much of the CSX railroad in 2005. Residents of the Gulf states, as well as local, state, and federal officials requested the return of Amtrak passenger service to the region ever since CSX rebuilt the railroad in 2006.

Usage of the route by CSX and NS is far from its capacity. Under the planned schedule, each morning and each afternoon, an Amtrak train would depart from both Mobile and New Orleans, passing each other in Mississippi, where almost $45 million in improvements are proposed and funded. Amtrak operations at Mobile would be scheduled with approximately 12 hours between the two departures and 10 hours between the two arrivals.

In Mobile, these trains would serve a downtown station and park off the CSX main line at a dedicated storage track more than one mile west of the Alabama State Docks main and interchange tracks. This station site is within walking distance of businesses – including restaurants, hotels and other attractions – directly between the cruise ship terminal and the city’s convention center, making it ideal for visitors.

Mobile is also considering a suburban stop that could provide air-rail mobility as commercial aviation is developed at Brookley Field, just as Amtrak does daily between downtown Milwaukee and its airport.

FOR MORE INFORMATION

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About Amtrak®

For 50 years, Amtrak has connected America and transformed transportation by modernizing train travel, and building for the future. Amtrak will continue to play an important role in the national transportation network for the next 50 years and beyond by operating a safe, environmentally efficient and fiscally responsible business by providing travelers with an experience that sets a new standard. Book travel, check train status, access your eTicket and more through the Amtrak app. Learn more at Amtrak.com and connect with us on Twitter, Instagram, Facebook and LinkedIn.

« With Increased Demand and Congressional Funding, Amtrak Restores 12 Long Distance Routes to Daily Service

Amtrak Releasing Six 50th Anniversary Commemorative Painted Locomotives »

EXHIBIT L

NOVEMBER 23, 2020

Amtrak Fiscal Year 2020: Prioritized Customer Safety, Advanced Infrastructure and Fast-Tracked Technology

Urgent funding needed for continued service

WASHINGTON – Amtrak has worked steadily over the past fiscal year to prioritize customer safety, advance infrastructure and fast-track technology improvements even as the ongoing pandemic caused a devastating drop in ridership and revenue. Amtrak quickly pivoted to handle this unprecedented challenge and ensure customers and employees remained healthy, while also continuing to focus on improving intercity passenger rail for the future.

"Our dedicated employees continue to work tirelessly through the pandemic to keep this country moving, advance critical infrastructure and update technology and services, and provide safe transportation to customers," said Amtrak President & CEO Bill Flynn. "However, without additional funding for 2021, we will be forced to further reduce service, defer critical capital projects and make more job reductions despite this important progress."

Business remains at about 25% of pre-COVID levels, and based on the current forecast, ridership and revenue is expected to improve to about 37% of pre-COVID levels by the end of fiscal year 2021.

"Prior to the pandemic and with strong support from our partners, Amtrak set new records for ridership, revenue, and financial performance on its path to achieve operational breakeven in fiscal year 2020, further demonstrating the country's growing need for rail," said Amtrak Board Chair Tony Coscia. "We are continuing to make advancements so when customers return, they will find an even better Amtrak."

Preliminary results for fiscal year 2020 (Oct. 2019 – Sept. 2020) include:

- Safety: Completed Positive Train Control (PTC) installation on all tracks managed by Amtrak, continued advancement of our Safety Management System
- Capital Investment: Advanced $1.9 billion in infrastructure and fleet work
- Ridership[1]: Provided 16.8 million customer trips, a year-over-year decrease of 15.2 million passengers, owing to the pandemic-related travel demand reductions
- Operating Earnings[2]: ($801.1 million)
- Total Operating Revenue[3]: $2.3 billion, decreased 31.9% over FY 2019

Amtrak highlights in fiscal year 2020 include:

- COVID Response: With a medical director and partnership with the George Washington University Milken Institute School of Public Health, we studied, analyzed and made improvements to the Amtrak travel experience for the safety and health of our people and travelers. In an effort to simplify and safeguard the travel experience, several cleaning, contact-free and safety measures have been implemented into every part of the customer journey, including requiring face masks at all times, limiting bookings, and signage to promote social distancing and more. Through a partnership with RB, the makers of Lysol, Amtrak is enhancing its cleaning and disinfection measures. For a full list of Amtrak's health and safety protocols, please visit: Amtrak.com/Coronavirus.
- Safety: Continued advancement of the comprehensive Amtrak Safety Management System, resulting in improvements in a broad range of safety metrics. Completed PTC implementation on all Amtrak-owned and controlled track.
- Diversity & Inclusion: Implemented initiatives to improve diversity, inclusion and belonging. We hosted listening sessions with employees, created a Diversity & Inclusion Council, made significant changes to our hiring practices, offered "unconscious bias" training to all employees, and strengthened our relationships with external organizations that support diversity and inclusion.
- Equipment: Amtrak advanced testing on the #NewAcela trainsets. Efforts also included gathering necessary data needed to meet regulatory requirements, improving infrastructure and facilities, and developing training so our flagship service's next generation trains can begin carrying customers by the end of 2021. By the end of fiscal year 2020, prototype trains have been on the Northeast Corridor and in Colorado, topping 20,000 miles (32,186 km) on the test track and reaching a speed of 166.8 mph (268.4 kph) at the Transportation Technology Center near Pueblo, Colo. Our state partners in the Midwest and California have started accepting new railcars that customers will ride in 2021, with touchless features and updated amenities including more space for bicycles.
- Stations: Began refreshing major stations across the country. In the Northeast this includes: upgrading the ticketed waiting area at New York Penn Station, a major construction project that will increase rail capacity at Washington Union Station, working with New York Gov. Cuomo and NJ TRANSIT on the Penn Master Plan and Penn Expansion projects to upgrade and add more tracks and platforms to the existing station, selecting a team with international expertise to form a master development partnership via ground lease for the renovation of William H. Gray III 30th Street Station, collaborating with

New Jersey Gov. Murphy and NJ TRANSIT on construction work at four New Jersey train stations: New Brunswick, Trenton Transit Center, Princeton Junction, and Elizabeth Stations and a construction project to improve accessibility and safety at the Amtrak stop in Ashland, Va.

- Infrastructure: As an unexpected positive outcome of Covid-19, Amtrak accomplished additional work this summer due to reduced train volumes. For example, B&P Tunnel concrete slab, tie, rail replacement work would normally be completed on extended weekend outages. However, an estimated two to three years of work was completed with extended outages this summer. Additionally, crews accomplished over 20% more Sperry rail testing at night over the Northeast Corridor. Amtrak also took advantage of reduced train frequencies to accelerate data collection efforts in performing LiDAR mapping of infrastructure. What had originally been planned to take four months working around train operations was reduced to three weeks of continuous measuring.

- Accessibility: Invested a record $109 million on ADA-related design and construction improvement projects at more than 159 locations nationwide, advancing efforts to make stations universally accessible. Accessibility projects just finished include Montgomery, W.Va., and Picayune, Miss., while $29 million in improvements to the platforms and the station is underway in Homewood, Ill., together with Metra.

- Technology: Understanding the importance of convenience and contact-free travel, Amtrak improved and expanded its website and mobile platforms. These updates included customers receiving access to information and services on their mobile device, such as gate and track notifications at select stations to reduce crowding around station departure boards, a capacity indicator icon allowing customers to see how full the train is before booking.

- Product Upgrades: Launched and expanded several popular programs to provide customers with improved amenities, including the introduction of the Carry-on bike program on the *Pennsylvanian* (and the increase of program for most *Northeast Regional* departures, and various Northeast State-Supported trains: *Keystone Service, Downeaster* trains and *Amtrak Hartford Line* trains), broadened reserved seating to all *Acela* Business Class and *Palmetto, Vermonter, Carolinian and Northeast Regional* Business class customers, upgraded bedding, pillows, towels, linens and other goods in private rooms on the *Auto Train*, expanded the pet program to allow customers to travel with their dogs and cats up to 20 pounds onboard weekday *Acela* trains, and debuted the RideReserve℠ program to reduce crowding and provide a more comfortable ride for customers.

- Sustainability: Quantified financial impacts to ridership and revenue due to storms and severe weather. Developed a greenhouse gas emissions calculator comparing the impacts of rail vs other travel modes and identified inundation and flood mapping training with instruction from the National Oceanic and Atmospheric Administration. Annually, we set targets to reduce greenhouse gas (GHG) emissions, electricity and fuel consumption. Since 2010, Amtrak has reduced emissions by 20% with a target to achieve 40% reduction by 2030 – from 2010 baseline figures.

- State-Supported Services: In partnership with the Virginia Department of Rail and Public Transportation and other stakeholders, committed to creating a new passenger-dedicated rail infrastructure between Washington, D.C., Richmond and the North Carolina border to allow for quicker and more predictable trips. Amtrak and partners are making continued progress toward extending 110 mph service in Michigan and adding 90 mph service in Illinois, both to improve travel times and productivity.

- Contract Commuter Services: Throughout a challenging year marked by operational and fiscal uncertainty, Amtrak worked closely with our contract commuter customers to adapt many aspects of their operations, ranging from the frequency of departures to customer-facing processes, to sustain essential services and provide them with the flexibility they needed.

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[1] Fiscal year 2019 ridership previously reported as 32.5 million has been decreased to 32.0 million to reflect an updated company definition of ridership

[2] Unaudited

[3] Includes payments from state partners for state-supported routes

FOR MORE INFORMATION

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About Amtrak®

Amtrak is setting a new standard of travel. To simplify and safeguard the travel experience, new cleaning and convenience measures are part of every customer's contactless journey – from booking to arrival. Leveraging a full-time medical director and public health and safety team, we are committed to operating a safe, environmentally efficient and fiscally responsible business. Book travel, check train status, access your eTicket and more through the Amtrak app. Learn more at Amtrak.com.

« Amtrak and NJ TRANSIT Complete the Refresh of the Ticketed Waiting Area at New York Penn Station

Amtrak Offers 50% Savings for Annual "Track Friday Sale" »

EXHIBIT M

News

Ivey says questions remain before Alabama can commit to Amtrak's Mobile return

Posted Jun 08, 2019

The Amtrak inspection train pulls into downtown Mobile in February 2016.(photo courtesy of Marc Glucksman/Amtrak)

By John Sharp | jsharp@al.com

Long-term financial commitments and the potential impact to the Port of Mobile are two concerns driving Alabama Gov. Kay Ivey's hesitation on supporting a possible return of Amtrak to the Gulf Coast.

In a statement to AL.com Saturday, the governor said more information about the return of the passenger rail service to Mobile is needed before the state is

Her comments come one day after the Southern Rail Commission and U.S. Sen. Roger Wicker, R-Miss., announced the award of a $33 million federal grant to make improvements to the coastal rail line in preparation for a return of Amtrak service within 24 months.

The service will operate daily between New Orleans to Mobile. But the service is anticipated to be substandard in Alabama compared to Louisiana and Mississippi, which have dedicated funds to make upgrades to the rail line.

“While the grant may be a kickstart, we still need to see what the long-term implications would be – both positive and negative – to the Port which has been the focus of a lot of efforts – and money – in recent months and years,” Ivey said in an emailed statement.

“Plus, I want to make certain we know what the long-term financial commitments will be long after this grant has been spent,” she added. “My administration will be working closely with the city, county, port authority and other entities to make certain that this is truly a win for the people of Alabama. We’ll be in a better position to evaluate this after further conversations with these different entities.”

Alabama’s commitment is estimated at around $2.7 million, and the money would serve as a state allocation in support of the grant that was awarded by the Federal Railroad Administration to the Southern Rail Commission, a 21-member group that promotes passenger rail service and pursues funding opportunities to support its mission.

The SRC plans to hold is September meeting in Montgomery, but it’s unclear whether the governor plans to attend.

Ivey, last year, opted not to authorize support for the project. At the time, she said the timing wasn’t right to move forward with the investment.

Mississippi also initially balked at supporting the project, but state officials have since dedicated more than $15 million for the restart of Amtrak service that will include four stops within the state – Bay St. Louis, Gulfport, Biloxi and Pascagoula. Louisiana, which only has one stop in New Orleans, has already pledged approximately $10 million.

The overall costs to restart the service are $65.9 million.

The Alabama State Port Authority has been one the more vocal opponents of bringing Amtrak back to the Gulf Coast.

Jimmy Lyons, the port’s CEO, has said that he believes the service would interfere with business activity within the State Docks in downtown Mobile.

The port is also preparing for a ship channel enlargement project, financed by the state and backed by Ivey through the Rebuild Alabama Infrastructure program, which is being financed through a 10 cent per gallon fuel tax increase that will be phased in over three years. The first tax hike, a 6-cent increase, starts in early September.

The ship channel project got $150 million from the Legislature’s approval of the overall plan, which focused primarily on road maintenance and construction projects. Railroad improvements were not part of the infrastructure program.

A spokeswoman for the Port Authority declined comment about the grant on Friday.

Around the web

Woman charged with murder in alleged street racing crash posts video blaming grandmother killed in wreck

Alabama

Boyfriend charged with murder of Birmingham woman killed day after her birthday

EXHIBIT N

Meeting of the Southern Rail Commission

March 6, 2020 9:00am-12:00pm
Baton Rouge Area Foundation
100 North Street (IBM Building) 9th floor
Baton Rouge, LA 70802

Call to Order: *Chairman Wiley Blankenship*

Roll Call

Attendees: Wiley Blankenship, John Spain, Knox Ross, Steve Carter, Toby Bennington, Roy Woodruff, Jerome Wall, Renee A. Lapeyrolerie, Stephen McNair; Shawn Wilson

On Phone: Dan Dealy

Guests: Joni Emmons, John Robert Smith, Maggie Woodruff, Todd Stennis, Marc Magliari, Dean Goddell, Michael Monsour, Phil Jones, Brandon Hebron

Pledge of Allegiance and Prayer

Special Recognitions

- Commissioner Spain introduced Renee Lapeyrolerie and welcomed her as a new commissioner for the state of Louisiana. She has been appointed Commissioner of the state's Office of Multimodal Commerce.
- He also mentioned that Commissioner Wall and Commissioner Leger's appointments will end on March 23rd, and he thanked them for their service on the Southern Rail Commission.

REGULAR BUSINESS

I. Approval of the minutes from the meeting of December 6, 2019
- Commissioner Spain moved to approve the minutes, and Commissioner Bennington seconded the motion.

II. Legislative Affairs Update - *John Robert Smith*
- Implementation of CRISI grant funds
  - The SRC has received $33 million of federal funds and $33 million in matched funds from the States of Louisiana and Mississippi and the County of Mobile. The Federal Railroad Administration believes that environmental assessments will have to be conducted for each project. T4A has suggested conducting a pre-NEPA for the entire corridor, to be conducted by MDOT for Mississippi projects. T4A will work with FRA to develop a checklist for MDOT to look for in their pre-assessment. This pre-NEPA may allow projects within the corridor to be covered by the categorical exclusion and exempt from a full environmental assessment. T4A has also talked to FRA about granting pre-award authority so that MDOT staff time could be covered by CRISI funds.
  - Administration of CRISI funds will be similar to administration of station planning grants. MDOT will manage Mississippi projects; CSX will construct the projects within their right of way. MDOT will pay CSX for improvements within their right of way, MDOT will invoice the SRC, the invoice will go to T4A, T4A will request money from FRA, then SRC will disburse funds to MDOT. T4A is

working with the FRA to establish a process to allow MDOT to directly bill the FRA.
    - Amtrak will work with FRA on an operating agreement, and that's when there will be evaluation of the numbers. State grade crossing improvement funds will be prioritized as an in-kind match to federal CRISI funds. CSX will do work, MDOT will monitor/administer work and confirm to the SRC that the work has been completed per specification. MDOT will audit the work and submit invoices to the SRC for payment. For larger, more complex projects, the SRC may want to consider contracting a firm to administer construction.
        - State DOTs could submit their administrative fees for oversight of CRISI projects to the SRC for reimbursement. The FRA looks to the SRC to ensure that improvements have been done and the work has been approved. T4A will be conduit for processing invoices (at least quarterly) from state DOTs for payment. Someone will have to certify that the work has been done properly; this may be a third party for more complex projects.
    - CSX has to grant permission for work to be done on their line. They are waiting for RTC modeling to be completed before any work can be done (probably in July). Project prioritization can be modified according to outcomes of the RTC modeling.
    - The state DOTs will tell the SRC whether or not they are comfortable overseeing the project construction, and if they are not comfortable, there is money in the CRISI grant to hire a firm to oversee implementation.
    - Commissioner Bennington moved to grant the Executive Committee permission to continue this conversation about fund and project administration outside the context of the meeting, and Commissioner Woodruff seconded.
- Mobile update
    - Mobile initially received federal matching funds to study the legacy station downtown, and that study will be finished this spring. Mobile now prefers a site at the airport; an Alternatives Analysis will have to be completed for the Brookley Field site. A pre-Alternatives Analysis will also be completed, identifying the criteria that should be analyzed in the Alternatives Analysis. The analysis will involve studying the difference in ridership/demand between the two sites. Brookley could apply for a station planning grant from the SRC; John Robert suggested issuing a Notice of Funding Opportunity to municipalities eligible for the planning grants.
    - Motion to issue Notice of Funding Opportunity on May 1, 2020 for SRC station planning grants. Commissioner Spain motioned, and Commissioner Bennington seconded.
- T4A has written nine pieces of legislation on the SRC's behalf. Some highlights include:
    - Expansion of CRISI funds to $2 billion/year
    - Assessing abandoned and very lightly used freight right-of-ways
    - Creation of five additional commissions like the SRC, established by Congress with Governor-appointed members, with federal dollars to match annual contributions from the member states
    - Dedicated funding

        - Time performance language, including tax incentives for freight rail to facilitate passenger service in a timely manner
            - Commissioner Spain suggested reaching out to the Association of Freight Railroads, CSX, and KCS and engaging them in the development of the language
        - Pedestrian and bike issues
    - There is no firm date set yet for the next round of CRISI grants that could be used for the NOLA to BR project.

III. Financial and Administrative Report - *Knox Ross*

- Update on States Dues - *Knox Ross*
    i. Have received Louisiana and Mississippi dues; Alabama is in process of getting theirs paid.
- Approval of 2020 Budget - *Knox Ross*
    i. Commissioner Bennington motioned to approve the 2020 budget, and Commissioner Woodruff seconded.
- Approval of 2019 Audit - *Knox Ross*
    i. Were no substantial issues with audit. T4A is addressing the small issues raised by the auditor about grant administration, as they are administering federal funds received by SRC.
    ii. Commissioner Woodruff motioned to approve the audit, and Commissioner Bennington seconded.

IV. Communications and Media Update - *Joni Emmons and Dan Dealy*

- Joni reported on CPEX's work producing advocacy documents for the Executive Committee's recent trip to Capitol Hill. They also worked with Jacksonville State University and Commissioner Bennington to produce a one-page Executive Summary of the recent Economic Impact study on the expansion of passenger rail in Alabama. Joni also noted that CPEX can be a resource for crafting advocacy materials as the SRC moves forward on CRISI projects.
- Dan noted the recent intensive efforts in Mobile to build support for Gulf Coast rail restoration and funding commitments.

Old Business

I. Report on Executive Committee activities - *Spain, Ross, Blankenship*

- Commissioner Spain thanked the T4A team for developing legislative priorities for the SRC. He noted that the Executive Committee's time developing relationships in D.C. and with Amtrak has been worthwhile, and T4A has been instrumental in facilitating those relationships.

II. Update on station planning grants - *John Robert Smith*

- The station planning grants are all complete; T4A will be working with the communities to give them the language their councils should pass to accept the award from the SRC.

III. State Reports:

a. Louisiana:
    i. Update on New Orleans to Baton Rouge passenger rail service

1. Governor was reelected and has reaffirmed his commitment to passenger rail in Louisiana from a transit and commuter perspective. Over the next four years, Commissioners Lapeyrolerie and Wilson will work to secure that future. Parish Presidents and Super Regional Authority have met to discuss federal funding and what Louisiana can do at the state level. New Orleans to Baton Rouge authorities and Monroe to Shreveport have been engaged in discussion on strategies the State can put forth on passenger rail. Fast-tracking some concepts to bring bus rapid transit (BRT) to the New Orleans airport. The Governor will have another conversation with Baton Rouge to New Orleans about specifics of using CRISI and other tools for advancing passenger rail.

b. Mississippi:
    i. Update – *Knox Ross*
        1. Joe McHugh suggested setting up meetings with the newly-elected Mississippi Transportation Commissioners. Both were very engaged and supportive of the SRC's efforts in Mississippi and along the Gulf Coast. They were also able to meet with key legislators to build support for the SRC's work.
        2. The Station Area Grants are all moving forward, and managers have confirmed that projects are moving forward. The Mayor of Biloxi made the train the center of his State of the City address.
        3. Mississippi's passenger rail advocates were very involved and supportive when the Mobile City Council was debating their support. He noted that the time spent educating people about passenger rail activities has paid off. Commissioner Ross also recognized Commissioner Kell for her decades of service and advocacy.
c. Alabama:
    i. Approval of Gulf Coast Passenger Service by City of Mobile - *Wiley Blankenship*
        1. The State of Alabama should be submitting payment of dues soon.
        2. Commissioner Blankenship thanked Mississippi and Louisiana for their continued support of the state of Alabama. Instead of securing committed support from the state government as the other two states have, Alabama has chosen to get support from local government. The effort to get a commitment of matching funds for the first three years of operating expenses from the Mobile City Council was successful, and he thanked Dan, T4A, and Amtrak for their advocacy efforts.
        3. Next, Alabama commissioners will meet with the County and ask for their support for the necessary infrastructure improvements. Conversations with the Governor's office for money for the station are ongoing.
        4. The Master Plan for the Mobile Air Authority should be available in the fall, and then we will know more about the position of passenger rail at Brookley Field Airport.
    ii. JSU Study – *Toby Bennington*
        1. The study was conducted by Jennifer Green at Jacksonville State University and presented at the last meeting. She worked with CPEX to produce a one-

page executive summary. Commissioner Bennington anticipates that it will be used as an educational tool.

New Business

Reports from Amtrak - *Todd Stennis and Marc Magliari*

- The new Amtrak CEO, William Flynn from Atlas Air, will start on April 15.
- Several ADA station projects will be going on in Mississippi over the next 24 months.
- Work on the RTC (Rail Traffic Control) model has begun. Amtrak is expecting model completion in August. The model is a starting point for negotiations with the host railroad; it tells how to optimize passenger service along the route. A service agreement will come later, and it will dictate when service starts, when capacity improvements are necessary, and other service details.
- Marc noted that bookings have been affected by COVID-19; the volume of ridership is going down.
- Amtrak has filed its annual request for funding, and it includes funds to maintain the current network and $300 million for growing corridors. They are requesting that funds be allocated for states interested in initiating new passenger service.

SCHEDULE OF UPCOMING MEETINGS:

I. June 5, 2020 Alabama
II. September 11, 2020 Mississippi
III. December 4, 2020 Louisiana

ADJOURNMENT

EXHIBIT O

Railroads for National Defense (RND)

The Railroads for National Defense Program (RND) ensures the readiness capability of the national railroad network to support defense deployment and peacetime needs. The Program integrates defense rail needs into civil sector planning affecting the Nation's railroad system. Rail transportation is extremely important to DOD since our heavy and tracked vehicles will deploy by rail to seaports of embarkation. The RND Program, in conjunction with the US Federal Railroad Administration (FRA), established the Strategic Rail Corridor Network (STRACNET) to ensure DOD's minimum rail needs are identified and coordinated with appropriate transportation authorities. STRACNET is an interconnected and continuous rail line network consisting of over 36,000 miles of track serving over 120 defense installations. We work with State DOTs, the Association of American Railroads (AAR), the Surface Transportation Board (STB), the American Railway Engineering and Maintenance of Way Association (AREMA), the FRA, and individual railroad companies to protect this railroad infrastructure.

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