Final Report

PRESIDENT STREET GRADE CROSSING ELIMINATION STUDY

PREPARED FOR:

CHATHAM COUNTY GEORGIA

1777

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March 28, 2025

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Executive Summary

This report provides a detailed assessment of the current capacity, delay, and safety concerns at the East President Street (E. President Street) highway-railroad grade crossing near its intersection with Harry S Truman Parkway (Truman Parkway). The analysis evaluates existing traffic characteristics, including volumes, travel times, congestion, and historical crash data, while also reviewing utilities and environmental resources within the area. These findings establish a baseline for developing viable alternatives to the at-grade railroad crossing, aiming to enhance safety, reduce delays, and justify the preferred alternative. The study focuses on constructing a grade-separated crossing of the railroad while considering the area's growth pressures and preserving Savannah's unique character.

E. President Street serves as a vital east-west arterial connecting downtown Savannah to commercial, industrial, and residential areas. Traffic conditions are complicated by the crossing's proximity to the Truman Parkway ramp intersections and frequent unplanned blockages at the grade crossing, leading to congestion and safety hazards such as rear-end collisions caused by stop-and-go traffic. The study initially assessed nine alternatives—six focused on roadways and three on railroads—using an Alternative Evaluation Matrix to narrow the options. Synchro and VISSIM software tools were employed to analyze traffic performance under various scenarios, providing insights for designing three conceptual alternatives. Public and stakeholder feedback, combined with a benefit-cost analysis, ultimately identified Alternative 3, the Green-T Trumpet Interchange, as the preferred long-term solution for eliminating the grade crossing.

This report recommends advancing the Green-T Trumpet Interchange concept, in collaboration with GDOT and local governments, as the Preferred Alternative. This design aligns with future traffic growth projections, supports planned and ongoing developments such as Eastern Wharf and President Square, and enhances overall mobility and safety. It achieves this by combining a flexible yet minimally intrusive design that closely preserves the existing footprint while accommodating multi-modal and pedestrian features. The project will advance through additional environmental and engineering phases to address historic, archaeological, and ecological considerations while engaging community stakeholders to ensure alignment with Savannah's long-term vision for sustainable development.

1.0 Introduction

The purpose of this report is to provide a comprehensive overview of the existing capacity, delay and safety concerns related to the highway-railroad grade crossing of East President Street (E. President Street) immediately west of its interchange with Harry S Truman Parkway (Truman Parkway) and the larger adjacent roadway network. This analysis inventories and evaluates the current transportation network including roadways, railroad, and existing traffic characteristics such as traffic volume, travel times, and congestion levels. Additionally, a preliminary review of utilities and environmental resources was conducted as part of this analysis. The findings of this analysis will serve as a baseline for developing a set of viable alternatives to the existing at-grade railroad crossing to help develop a project justification statement and estimated cost for a preferred alternative that can further be developed into a Concept Report and Preliminary Engineering.

1.1 Project Background

The industries served by the shortline railroad crossing E. President Street at its intersection with Truman Parkway continue to expand operations and have indicated they do not have adequate room on site to add additional track to help reduce the number of blockages. This combination has resulted in longer trains and increased frequency of train movements blocking traffic on E. President Street, including during AM and PM peak hours. As such, this study will evaluate alternatives and their associated costs for construction of a grade-separated crossing to eliminate the delays and improve overall safety through the E. President Street corridor. Complicating the situation is the proximity of the existing at-grade railroad crossing to the intersection of two major arterial routes used to access downtown Savannah. The most current GDOT traffic count data indicate that E. President Street had an AADT of 27,170 in 2023 and the Truman Parkway on/off ramps had a combined AADT of 17,410 in 2024 (8,370 for the off-ramp; 9,040 for the on-ramp). Elimination of the rail crossing could eliminate delays and improve safety for the nearly combined 44,600 vehicles that use this area each day, as well as allow unobstructed expansion of rail and roadway capacity. The industries served by this railroad expect annual total truck trips using this intersection to be about 445,000 in 2023 and by 2032 they project annual truck trips to more than double.

Toward this end, the first step is the inventory and evaluation of the existing conditions. This includes identifying the overall study area, reviewing previous transportation studies that have influenced recent development, and evaluating the current operational and safety concerns related to the existing transportation system within the study area.

The main objectives of this analysis are to:

- Review relevant previous plans and studies, current land use, and transportation regulations or policies that impact the study area.
- Review developments and projects underway, permitted, or programmed in the study area.
- Collect and analyze existing traffic data including traffic counts, turning movement volumes, and truck volumes to assess existing traffic conditions.
- Document and review the existing active transportation facilities within the study area.
- Conduct preliminary environmental screening within the study area.
- Evaluate the traffic operations and safety.
- Identify and evaluate pre-existing utilities that could be impacted by any of the proposed alternatives and subsequent ROW information that may be impacted.

1.2 Study Area Boundary

A study area boundary was initially defined to include E. President Street from E Broad Street within the historic downtown area out to Seapoint Boulevard, and all the area in between from the Savannah River to the north down to and including Wheaton Street and E Gwinnett Street (see Figure 1). This study area was chosen based on the limits of impact from blocked crossings and the spillover effect they could have to the surrounding roadway network in terms of known detour routes and/or bypass options during these events. These detour routes include the Wheaton Street grade crossing, located approximately 0.5 miles southwest, and would require a minimum 1.0-mile detour west of the crossing and 3 miles east of the crossing. The only nearby grade-separated (underpass) crossing of the railroad is located along E Gwinnett Street approximately 1.0 miles southwest and would require a minimum 1.5-mile detour west of the crossing and 3 miles east of the crossing. Both detour routes consist of two-lane roadways that serve multiple dense residential neighborhoods, two elementary schools and other community resources.

E Gwinnett St underpass (looking east)

Use of the E Gwinnett Street underpass is also limited due to low vertical clearance and the fact that it can flood frequently after heavy rain due to the low overall elevation, eliminating this route as an option for heavy truck traffic.

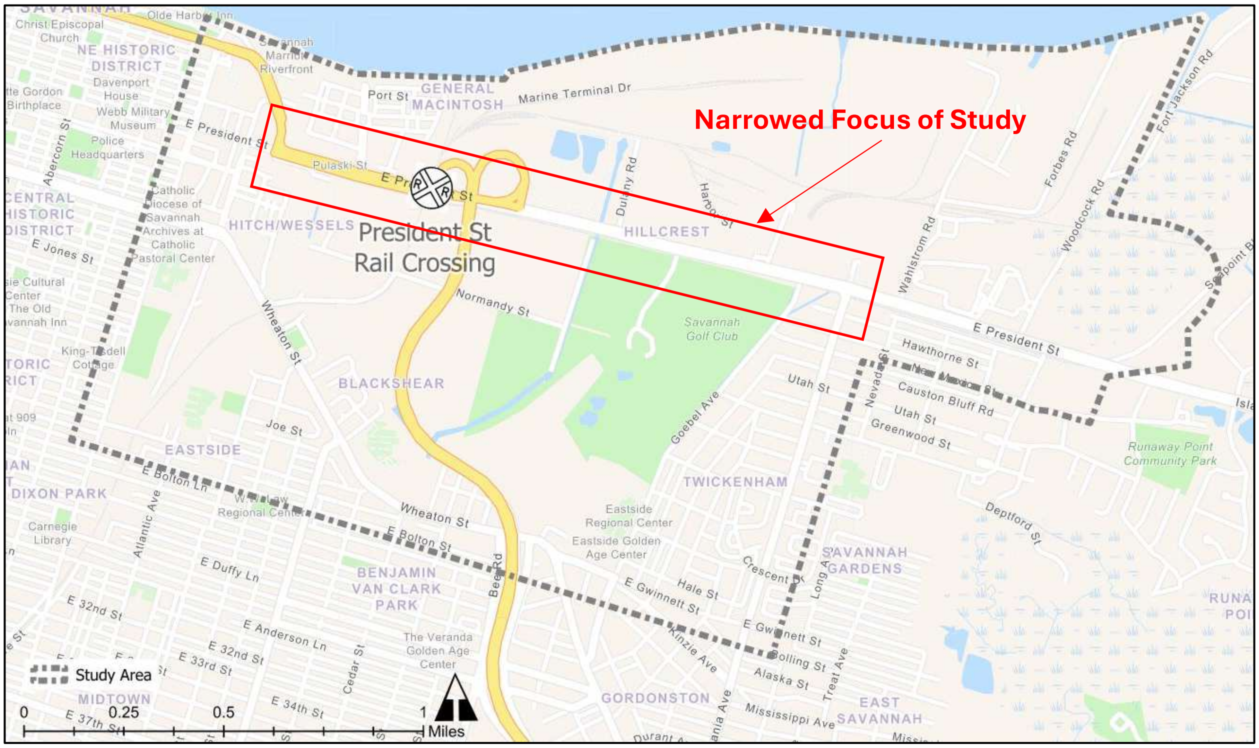
Based on discussions with local officials from both Chatham County and the City of Savannah, it was determined that neither of these were feasible detour routes. The primary study area boundary therefore narrowed to focus on the section of E. President Street from General McIntosh Boulevard east to Pennsylvania Avenue. This stretch of roadway includes the five signalized intersections most affected by blockages at the grade crossing and is outlined below.

1.3 Review of Relevant Plans and Studies

The City of Savannah and the Coastal Regional Metropolitan Planning Commission have recognized tremendous area growth over the last few decades. Although a large amount of this growth continues to occur in the undeveloped, ex-urban areas, the infill and redevelopment pressures within the central city have also dramatically increased. This growth pressure has focused attention on the need to both preserve and enhance Savannah's unique character enjoyed by residents and visitors.

The intersection of this growth pressure with the project being studied lies at the grade crossing itself and the Truman Parkway interchange, with E. President Street serving as the primary east-west conduit for the region. A 2007 comprehensive study identified E. President Street as Savannah's eastern gateway and the main arterial connecting various infill and redevelopment projects west of the crossing, including the Eastern Wharf district to the north and the President Square development to the south. East of the crossing and Truman Parkway, E. President Street functions as a key arterial for commercial and industrial operations before transitioning into the Islands Expressway, which serves the developing eastern islands—Whitemarsh, Talahi, Wilmington, and Tybee Island—and their seasonal traffic.

Figure 1: Project Study Area



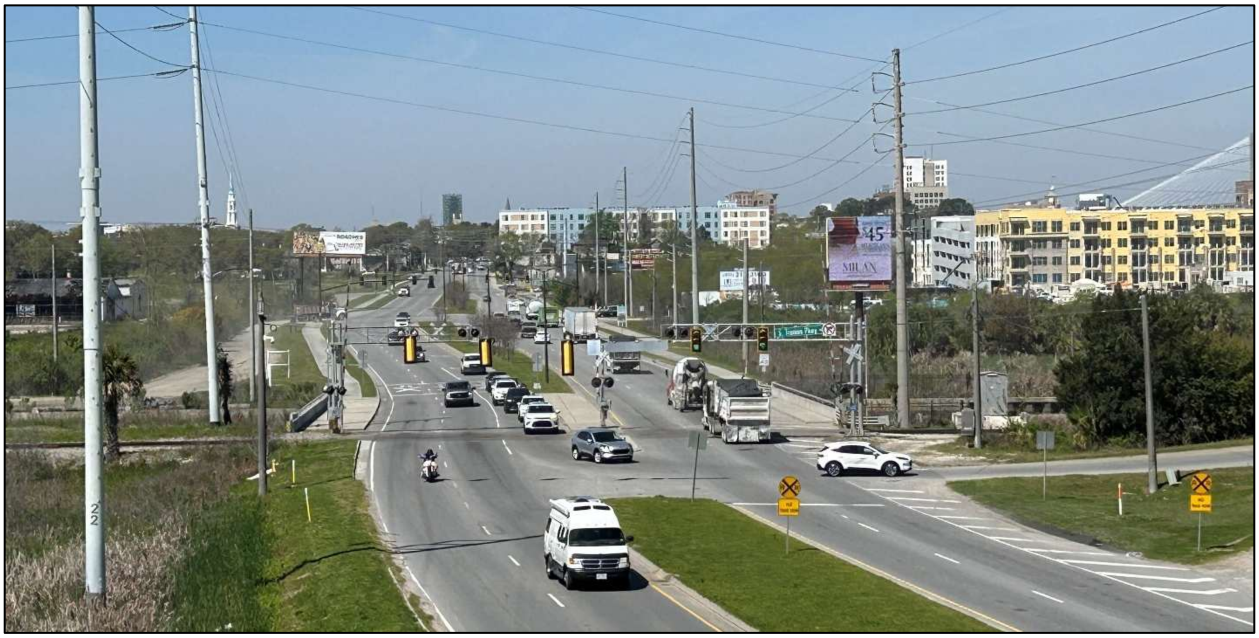
Therefore, the need to maintain a consistent and efficient flow of east-west traffic will only increase. Delays caused by frequent blocked crossings have spilled over into the surrounding residential areas, introducing cut-through traffic. There are also physical barriers such as the low elevation of the surrounding area and the proximity of the nearest grade-separated crossing.

2.0 Existing Conditions

2.1 Overview

Within the study area there are multiple layers of roadways according to the GDOT roadway classification system. Truman Parkway is a multi-lane north-south urban principal arterial freeway which provides regional connectivity to and from the Savannah area. E. President Street is a four-lane divided east-west urban principal arterial and is the primary collecting roadway for access to and from Savannah for all parts east of the city and connects directly with Truman Parkway. It runs parallel to the Savannah River and forms the northern boundary between the residential areas to the south and the largely commercial and industrial areas to the north and serves as the primary collector and distributor between both these areas. E. President Street then feeds into a number of smaller classification roadways, including minor arterial roadways like Pennsylvania Avenue and Goebel Avenue which then serve local residential roadways. Local roadways are those that by definition, provide access to homes, businesses, and other properties. There are several roadways in the study area that are classified as either collectors or arterials which are designated by the services they provide. Figure 2 shows an example of existing conditions along E. President Street near the Truman Parkway interchange.

Figure 2: West View of E. President Street from Truman Parkway bridge



2.2 Traffic Data Inventory

Existing traffic counts for the study were collected on Tuesday and Wednesday, March 19-20, 2024, through the use of video cameras in order to also capture instances when the crossing was blocked by train movements. These dates were chosen following common traffic engineering practice to avoid spring break when the majority of schools and colleges are in session in order to observe typical traffic patterns during this non-holiday timeframe (Tuesday -Thursday). The types and locations of the counts are provided below.

Turning Movement Counts (TMCs) were conducted at five separate locations within the project study area during the AM, Midday, and PM peak hour periods as follows:

- E. President Street at General McIntosh Boulevard
- E. President Street at E Boundary Street
- E. President Street at Truman Parkway SB On-Ramp
- E. President Street at Truman Parkway NB Off-Ramp

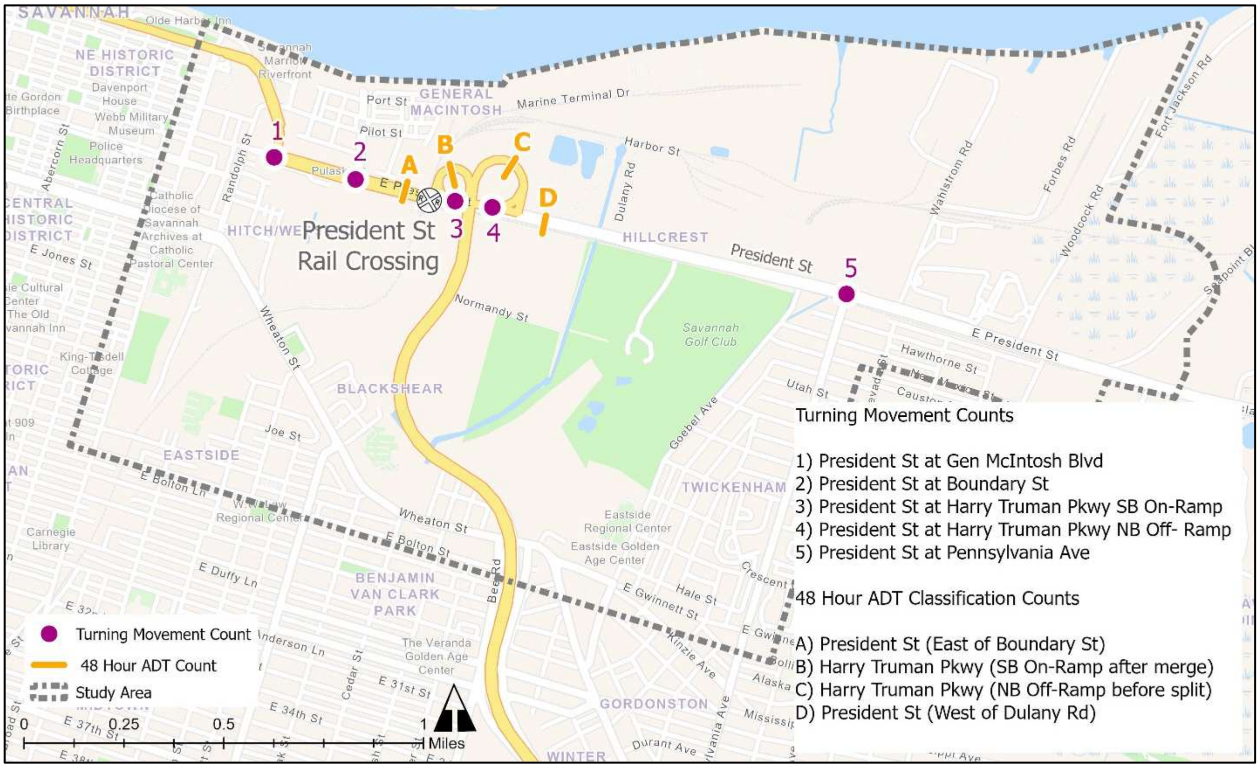
E. President Street at Pennsylvania Avenue

48-hour bi-directional counts were conducted at the following four locations:

- E. President Street, west of the railroad grade crossing
- Truman Parkway SB On-Ramp, north of E. President Street
- Truman Parkway NB Off-Ramp, north of E. President Street
- E. President Street, east of the Truman Parkway NB Off-ramp

These 48-hour bi-directional counts also included vehicle classification counts, meaning both vehicle and truck-specific data were collected. In addition, school bus counts were collected during this same time period at the crossing on E. President Street and on the Truman Parkway ramps. Figure 3 shows the locations of the traffic counts within the study area.

Figure 3: Existing Traffic Count Map



2.3 Existing Traffic Analysis

For this study, traffic analysis was narrowed to the five primary intersections along E. President Street as shown above in Figure 3. The reasoning for this is so that an existing detailed microsimulation model can be constructed and calibrated at the focal point of the analysis area which is the E. President Street corridor and the five key intersections where turning movement counts were taken.

Synchro Analysis

Existing 2024 intersection operations within the study area were analyzed in Synchro using existing traffic volumes, lane configurations, and signal operations data. The most widely used measure of effectiveness is the intersection Level of Service (LOS), which is based on the amount of average delay experienced by drivers as they travel through an intersection. LOS is a qualitative measure of traffic flow describing operating conditions. Six LOS are defined by the Federal Highway Administration (FHWA) in the *Highway Capacity Manual* for use in evaluating intersection operating conditions. They are given letter designations from A to F, with LOS A representing the best operating conditions and F the worst. An intersection may operate at a range of levels of service depending upon time of day, day of week or period of year. Figure 4 summarizes the existing (2024) intersection capacity analysis results.

The results of this analysis show that overall traffic operates smoothly along E. President Street with no exceptionally long delay with the exception of the PM peak hour at General McIntosh Boulevard. This is due to the nature of the intersection being the primary turning point for traffic into and out of the central business district (CBD). There is an exceptionally high number of left-turn movements from General McIntosh Boulevard onto E. President Street – over 400 vph in the AM peak hour and over 800 vph in the PM peak hour – which requires a separate protected signal phase. Currently this operates as a three-way intersection; however, a fourth leg will be added upon completion of the development immediately south of E. President Street, which will add additional phases to the signal cycle.

Proceeding east along the corridor, the next three intersections are all three-leg intersections as well. This configuration allows for relatively short cycle lengths and maintains priority for the mainline, E. President Street. Like at General McIntosh Boulevard, the intersection with E Boundary Street will also add a fourth leg upon completion of the President Square development; however, this demand should not overburden the existing intersection to the point seen at General McIntosh Boulevard.

The two ramp intersections at Truman Parkway also function very well given that the only limiting factors are the eastbound left-turn phase at the signal for the southbound on-ramp and then for the southbound left-turn phase at the signal for the northbound off-ramp. Both ramp intersections have short cycle lengths allowing queues to dissipate and allow traffic on the E. President Street mainline to move relatively uninterrupted. Between the two ramp intersections is a short weaving segment comprised of the free-flowing northbound Truman Parkway off-ramp to westbound E. President Street and the right-hand free-flowing westbound on-ramp from E. President Street to southbound Truman Parkway. This weaving segment is currently operating at LOS B.

The intersection with Pennsylvania Avenue is currently the only four-way signalized intersection within the study area. Simply due to having a fourth leg, the delay for vehicles on the side street is beginning to show as evidenced by the LOS C during the PM peak hour; however, the intersection is currently not overburdened, and mainline traffic operates at a high level of service.

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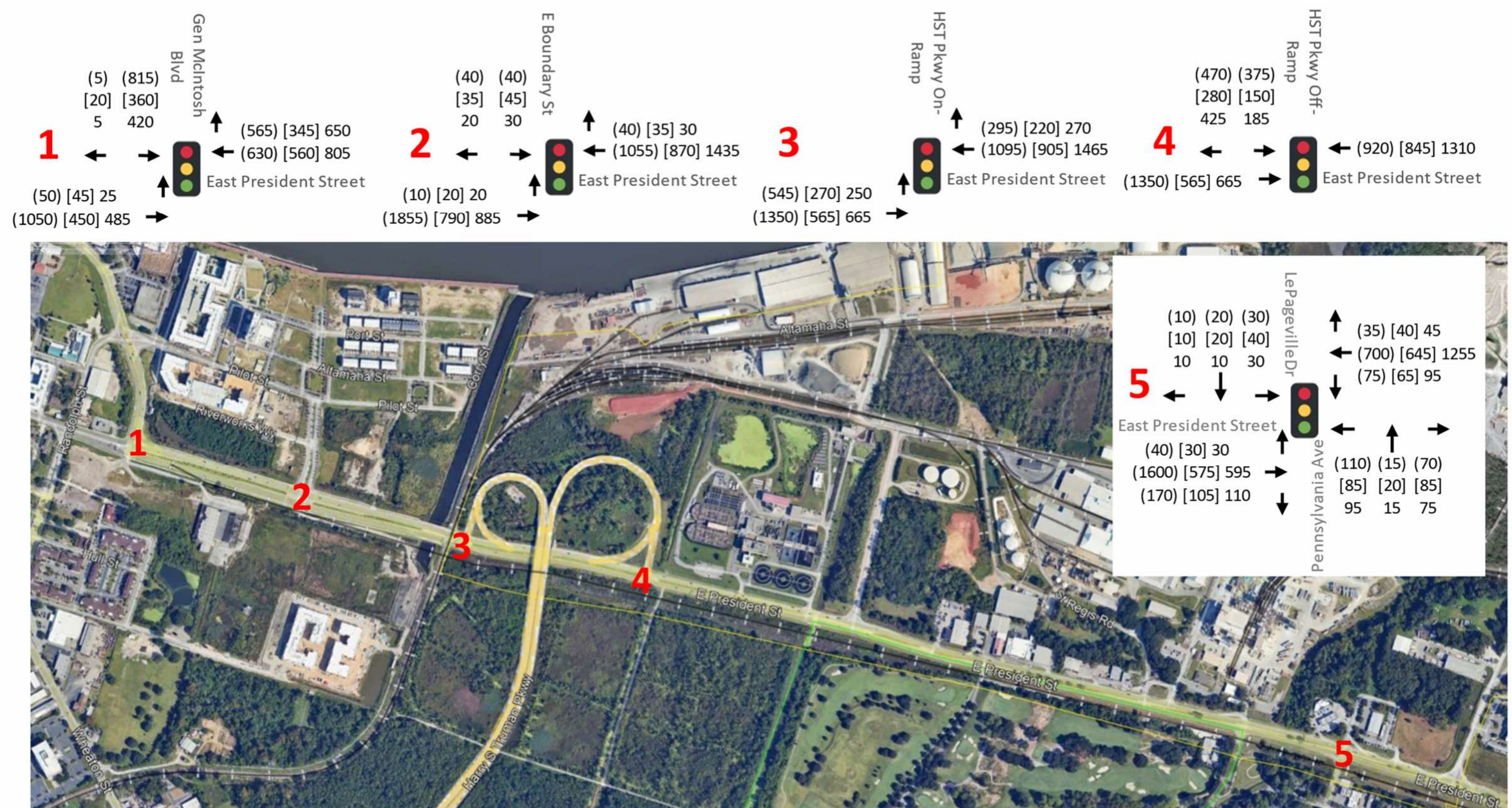
Figure 4: 2024 Existing Peak Hour Volumes and LOS



Intersection	AM		Noon		PM	
	Delay	LOS	Delay	LOS	Delay	LOS
1. E President @ General McIntosh Blvd	17	B	23	C	40	D
2. E President @ E Boundary St	4	A	10	A	3	A
3. E President @ Truman Pkwy On-Ramp	1	A	1	A	4	A
4. E President @ Truman Pkwy Off-Ramp	17	B	7	A	16	B
5. E President @ Pennsylvania Ave	16	B	15	B	28	C

Pk Hr Volume: AM, 6-9am; [Mid-day], 11-1pm; (PM), 4-8 pm)

East President Street RR Crossing Elimination Study
May 2024

Turning Movement Volumes
Existing Condition (2024)

2.4 Safety Analysis

Crash Summary

Historical crash data was sourced from the GDOT *Numetric* crash analysis tool for the last five years of available complete data 2018-2022. This information was used to develop a crash heat map for the limits of the study area boundary for further detailed analysis. Between 2018 and 2022, the most common incident types were angle collisions (34.2%), rear-end crashes (28.7%) and sideswipe collisions (19.8%). Other notable types of crashes occurring in the study area were collisions not involving another motor vehicle, typically a fixed object (13.5%). The crash summary from 2018-2022 is categorized by accident type in Figure 1 below.

Table 1: Study Area 5-Year Historical Crash Summary

Year	Angle	Head-on	Not a Collision with a Motor Vehicle	Rear-end	Sideswipe	Other	Total
2018	115	14	52	103	55	0	339
2019	110	16	53	104	70	0	353
2020	91	6	32	68	56	0	253
2021	117	9	43	99	69	1	338
2022	130	16	43	99	77	0	365
Totals	**563**	**61**	**223**	**473**	**327**	**1**	**1648**
Percent	**34.2%**	**3.7%**	**13.5%**	**28.7%**	**19.8%**	**0.1%**	**100%**

To better visualize the total number of crashes reported above, the distribution and frequency of these crashes within the study area was clustered into a density heat map, which is depicted in Figure 5. The crash heat map below shows areas with higher concentrations of crashes occurred primarily along E. President Street, E Gwinnett Street, the Truman Parkway interchange, and at various intersections with less frequent crash hot spots occurring elsewhere within the study area.

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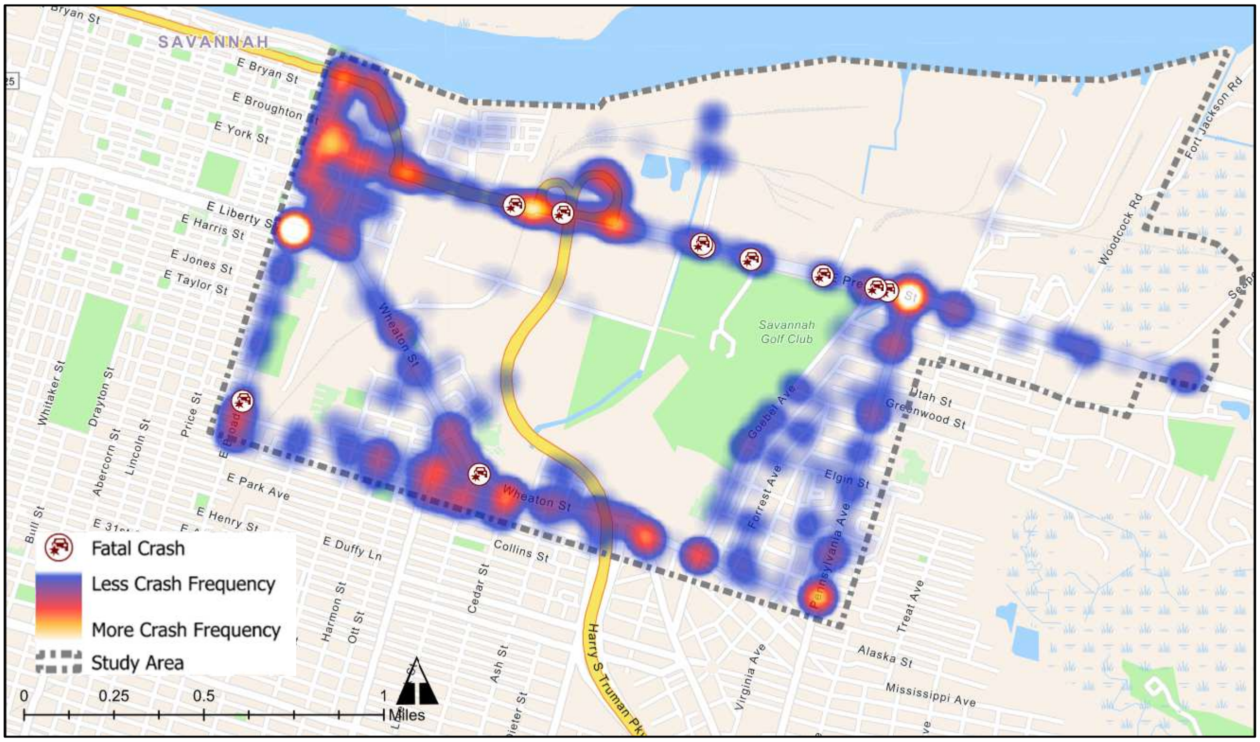
Figure 5: Study Area Crash Heat Map (2018 - 2022)



Crash Severity

Integral to the historical crash patterns for the study was the use of the KABCO severity index which is a functional measure of the injury severity for any person involved in the crash. “K” stands for Fatal Injury, “A” stands for Suspected Serious Injury, “B” stands for Suspected Minor Injury, “C” represents Possible Injury, and O-No Apparent Injury. Table 2 below shows the KABCO crash severity summary for the same area as shown in the Crash Heat map above for the same time period. The data shows that the most commonly occurring crash severity types were “O” (No Apparent Injury) and “C” (Possible Injury).

Table 2: GDOT KABCO Crash Severity (2018-2022)

Year	Severity						Total Crashes
	K	A	B	C	O	Unknown	
2018	2	6	28	56	230	17	339
2019	0	6	20	52	250	25	353
2020	3	0	17	41	177	15	253
2021	3	9	31	42	243	10	338
2022	2	8	30	53	253	19	365
Total	**10**	**29**	**126**	**244**	**1153**	**86**	**1648**

Of the 1,648 crashes during the 2018-2022 analyzed time period, nearly a quarter (399) contained reported injuries. An annual breakdown of the crash severity is provided in Table 3 below.

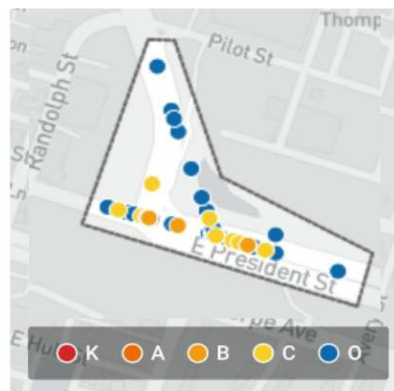
Table 3: Historical Crash Severity (2018 – 2022)

Year	Severity				Total Crashes
	No Injury	Injury	Fatal	Unknown	
2018	230	90	2	17	339
2019	250	78	0	25	353
2020	177	58	3	15	253
2021	243	82	3	10	338
2022	253	91	2	19	365
Total	**1153**	**399**	**10**	**86**	**1,648**
Percent	**70.0%**	**24.2%**	**0.6%**	**5.2%**	**100%**

In coordination with the traffic analysis study area previously identified, crash data over the same five-year time period was analyzed for the five primary signalized intersections along E. President Street within the influence of the grade crossing. Below is a breakdown for each intersection to identify any specific safety concerns. This analysis utilized a smaller portion of the data already shown from the *Numetric* Crash analysis tool.

1. E. President Street at General McIntosh Boulevard

	E. President Street @ Gen McIntosh	Crash Severity					Years
		K	A	B	C	O	5
Crash Type	Angle				2	4	12%
	Head-On						0%
	Rear End			2	7	20	57%
	Sideswipe – Same					13	25%
	Sideswipe – Opposite				1		2%
	Not a Collision w/Motor Veh			2			4%
	Totals	**0**	**0**	**4**	**10**	**37**	**51**



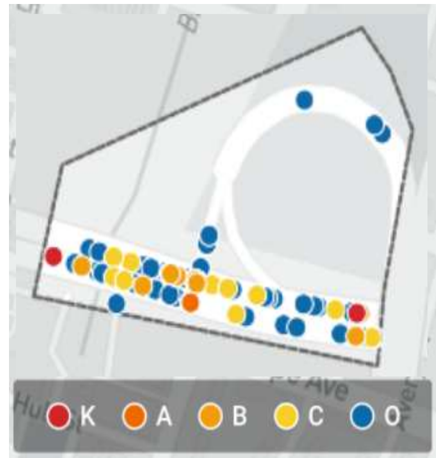
Of the 51 crashes at this intersection over the last five years, over half (57%) were Rear End crashes and a quarter (25%) were sideswipe crashes. This is primarily indicative of congestion occurring with the transition between General McIntosh Boulevard and E. President Street. The sideswipe collisions can also result from vehicle making left turns in duel left-turn lanes.

2. E. President Street at E Boundary Street

This intersection only had eight total accidents during this five-year period, and consisted of 3 non-motor vehicle, 3 rear end, and 2 angle crashes. The low overall number of crashes at this location indicate that overall vehicles are able to safely navigate through the intersection and/or access the adjacent side street without incident.

3. E. President Street at Truman Parkway SB On-Ramp

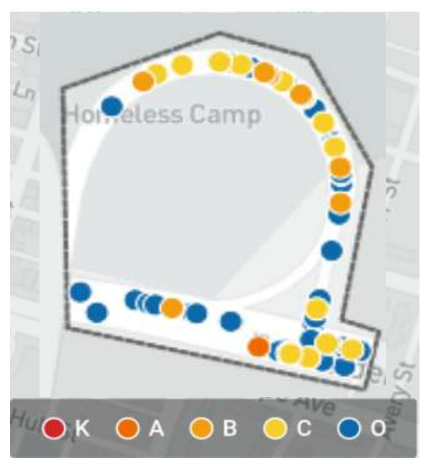
	E. President Street @ Truman Parkway SB On-Ramp	Crash Severity					Years
		K	A	B	C	O	5
Crash Type	Angle			2	3	5	12.2%
	Head-On					1	1.2%
	Rear End			6	8	27	50.0%
	Sideswipe - Same	2		1	1	13	20.7%
	Sideswipe - Opposite				1		1.2%
	Not a Collision w/Motor Veh		1	2	1	8	14.6%
	Totals	**2**	**1**	**11**	**14**	**54**	**82**



Of the 82 crashes at this intersection over the last five years, half (50%) were Rear End crashes, primarily along E. President Street (as shown in the attached diagram) and about 20% were sideswipe crashes. No information was given for the fatal accident west of the grade crossing other than it occurred at night under wet conditions and involved a motorist with a blood alcohol content (BAC) twice the legal limit. The fatal sideswipe accident east of the crossing involved two vehicles weaving between the on- and off-ramps of Truman Parkway during the day. The high number and location of rear end crashes along E. President Street is likely due to congestion and/or start and stop conditions related to the ramp intersection and also the grade crossing. This may not necessarily be due to train activity, but to a variety of vehicles that must stop at the tracks, including trucks and busses, combined with the addition of vehicles coming off the Truman Parkway northbound off-ramp and merging onto westbound E. President Street.

4. E. President Street at Truman Parkway NB Off-Ramp

	E. President Street @ Truman Parkway NB Off-Ramp	Crash Severity					Years
		K	A	B	C	O	5
Crash Type	Angle				1	5	6.6%
	Head-On			1			1.1%
	Rear End			1	4	27	35.2%
	Sideswipe – Same		1		1	10	13.2%
	Sideswipe – Opposite						0.0%
	Not a Collision w/Motor Veh			6	9	25	44.0%
	Totals	**0**	**1**	**8**	**15**	**67**	**91**



Over the past five years, 91 crashes have occurred at this intersection. Of these, the majority (44%) were non-vehicle collisions, followed by rear-end crashes (35%). As shown in the diagram above, most non-vehicle collisions involved motorists striking the guardrail while navigating the downhill right-hand curve of the off-ramp. Rear-end collisions primarily occurred at the signalized intersection on E. President Street, where vehicles from the off-ramp merge with the mainline.

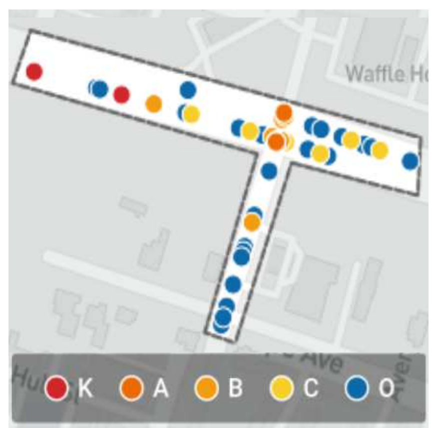
During the field visit, thick vegetation was observed along the right-hand side of the off-ramp, which can obstruct a driver's view of stopped or slow-moving vehicles caused by queued traffic, as illustrated in Figure 6 below.

Figure 6: View along the NB Off-Ramp approaching E. President Street

5. E. President Street at Pennsylvania Avenue

E. President Street @ Pennsylvania Ave	Crash Severity					Years
	K	A	B	C	O	5
Angle		2	13	11	19	51.7%
Head-On	1		2	1		4.6%
Rear End	1		2	3	22	32.2%
Sideswipe - Same			2	2	4	9.2%
Sideswipe - Opposite						0.0%
Not a Collision w/Motor Veh					2	2.3%
Totals	**2**	**2**	**19**	**17**	**47**	**87**

Crash Type



Of the 87 crashes at this intersection over the past five years, over half (51%) were angle crashes involving vehicles entering/leaving the mainline onto the side streets of Pennsylvania Avenue to the south and LaPageville Drive to the north, followed by Rear End crashes (32%) The fatal Read End crash occurred during the early afternoon, under dry conditions. The fatal Head-on crash occurred at night under dry conditions and involved a vehicle crossing over the median from the other direction on E. President Street. Overall, the percentage and types of accidents at this intersection are more indicative of a standard four-way intersection involving a mix of angel and rear end collisions where vehicles are entering and leaving the mainline.

2.5 Train Movements / Blocked Crossing Data

Train movements across the grade crossing just west of the intersection of E. President Street at the Truman Parkway southbound on-ramp was obtained from three primary sources:

- Video recordings taken during the March 19-20 field traffic counts
- Observed data supplied by Chatham County and by the City of Savannah, and
- Data obtained from the Automated Traffic Signal Performance Measures (ATSPM) website for Signal # 5051122, E. President Street at Truman Parkway on-Ramp that includes preemption details for the signal.

The grade crossing in question involves low speed (< 10 mph) switching movements by the Savannah & Old Fort Railroad into and out of an industry yard located immediately north of E. President Street. Due to confinements within the yard, switching maneuvers are necessary to switch between different rail cars, in addition to regular shipments in and out of the site. As there is no consistent train schedule to and from the rail yard, movements may occur at any time of day or night and may involve as many as 30 cars or more, or as few as three. The following observations were made after analyzing train movement data from the above three sources:

- Most train movements that block the crossing occur during off-peak hours and are typically brief (<5 minutes). However, the resulting queues can take time to clear, and once preemption ends, the upstream traffic signals revert to their regular cycles. This may not provide enough time for queued vehicles to pass through, causing additional vehicles to accumulate behind the existing queue.
- Although sporadic, each gate-activated train movement (blocked crossing) adds 30 seconds to westbound E. President Street to accommodate eastbound left turns onto the Truman Parkway southbound on-ramp. This additional delay compounds the time already incurred while the gates are down, further contributing to the growing queue on westbound E. President Street.
- The high volume of truck traffic, including hazmat trucks, trolley buses, school buses, tanker trucks, and other vehicles required to stop at all crossings, slows the dissipation of queues. This delay can overlap with the short signal cycles, leading to repeated traffic backups.
- Westbound E. President Street queues have been observed extending east past the Truman Parkway northbound off-ramp intersection, sometimes reaching as far as Pennsylvania Avenue—over a mile away—depending on the timing and duration of train switching maneuvers.
- Generally, queued traffic on westbound E. President Street does not affect the free-flowing right-turn southbound on-ramp onto Truman Parkway unless the queue extends beyond the northbound off-ramp intersection.
- During off-peak hours, some train movements have blocked the crossing for as long as 25 minutes, as observed in March. These long blockages result in severe traffic backups that take an additional 5–10 minutes to dissipate, creating total delays of over 30 minutes.
- Traffic delays and backups are more pronounced on westbound E. President Street east of the crossing compared to eastbound traffic west of the crossing.

Table 4 below is a two-week representation of train movements organized by peak and off-peak hours for the month of February 2024 and Figure 7 shows actual times for blocked crossing events where gates were lowered and traffic on E. President Street was stopped during the March 2024 field visit:

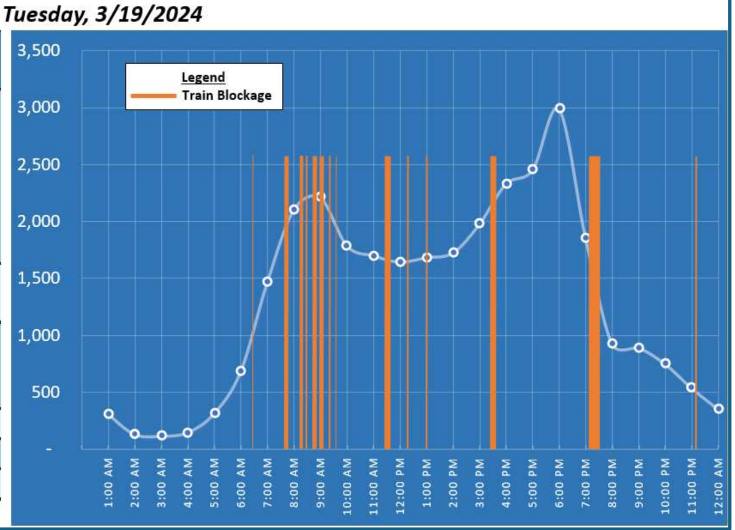
Table 4: Train movements (delay) in minutes (2/8/24 - 2/20/24)

Time Periods		Mon1	Mon2	Tue1	Tue2	Wed	Thu1	Thu2	Fri1	Fri2
AM Pk Hr	**6:00 - 9:00**	4	3.5	9	11.5	17	24	5	10	5
Off Pk	9:00 - 11:00	0	11	1	18	0	6.5	6.5	1	0
Noon	**11:00 - 1:00**	24	5.5	5.5	2.5	12.5	7.5	12.5	0	24
Off Pk	1:00 - 4:00	3.5	10.5	0	0	5	2.5	3.5	0	0
PM Pk Hr	**4:00 - 7:00**	0	0	4.5	0	0	0	0	1	0
Off Pk	7:00 - 12:00	4.5	54	0	0	16	10	6.5	15	0
Total minutes		36	84.5	20	32	50.5	50.5	34	27	29

Figure 7: Observed Blocked Crossing Events

Tuesday, 3/19/2024

Traffic Period	*Start*	*End*	*Time Stopped*	*Total*
AM PEAK	*6:20:29 AM*	*6:20:45 AM*	*0:00:16*	*0:22:55*
	7:43:56 AM	*7:48:51 AM*	*0:04:55*	
	8:17:57 AM	*8:21:03 AM*	*0:03:06*	
	8:23:14 AM	*8:25:04 AM*	*0:01:50*	
	8:50:35 AM	*8:56:15 AM*	*0:05:40*	
	8:59:10 AM	*9:06:18 AM*	*0:07:08*	
Off-PEAK	*9:15:50 AM*	*9:17:40 AM*	*0:01:50*	*0:02:13*
	9:39:00 AM	*9:39:23 AM*	*0:00:23*	
Mid-Day PEAK	*11:29:45 AM*	*11:37:52 AM*	*0:08:07*	*0:12:04*
	12:15:52 PM	*12:16:54 PM*	*0:01:02*	
	12:58:10 PM	*1:01:05 PM*	*0:02:55*	
Off-PEAK	*3:28:41 PM*	*3:35:59 PM*	*0:07:18*	*0:07:18*
PM PEAK	*7:09:25 PM*	*7:37:07 PM*	*0:27:42*	*0:27:42*
Off-PEAK	*11:05:50 PM*	*11:06:20 PM*	*0:00:30*	*0:00:30*
			1:12:42	*1:12:42*

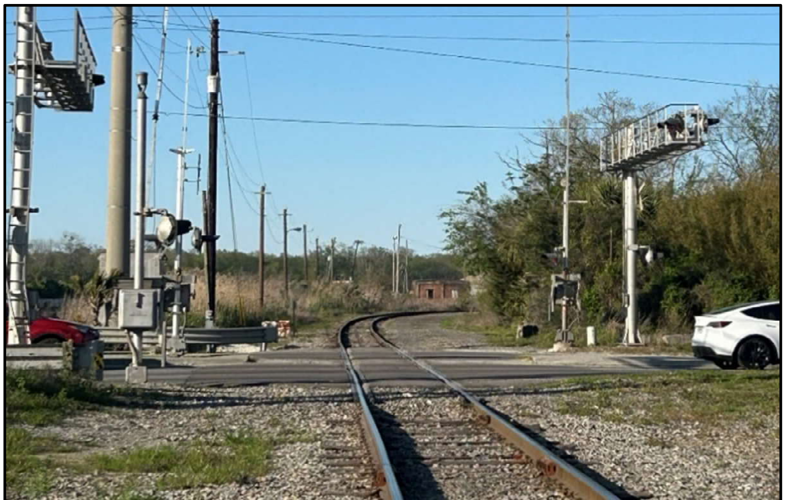


2.6 Railroad Operations

The following is a complete description of railroad activities within the study area independent from the existing roadway network. Upon description, the full context of these activities as they affect E. President Street, and the larger roadway study network will be analyzed in subsequent sections.

Crossing Location & Existing Conditions

The E. President Street highway-rail grade crossing is located just within the Savannah city limits and within 100 feet of the intersection with the southbound on-ramp to Truman Parkway. The railroad crossing of E. President Street is at the northern end of the Wharf Lead, a 6.5-mile segment of the Savannah & Old Fort Railroad (SVHO) and is a subsidiary of the Watco railroad holding company[1]. The railroad serves approximately nine customers located north of E. President Street, including the Seapoint Terminal east of Seapoint Boulevard (formerly Kemira Boulevard). SVHO owns all the track infrastructure on Wharf Lead. The railroad right-of-way is owned by CSXT and leased to SVHO.



Northern view of crossing over E President Street

The crossing itself is an asphalt and rubber grade crossing that is 95 feet wide across and intersects E. President Street at approximately a 90° angle. The crossing is equipped with active warning devices including cantilevered flashing lights and gates, and passive devices that include pavement markings and signage. Typical train speeds over the crossing ranges from 5 to 10 mph. A 24-hour quiet zone was established on January 10, 2024. The USDOT crossing inventory number is 641134T.

Eastbound approach to crossing on E President Street

The President Street traffic signal located adjacent to and east of the crossing is preempted concurrent with activation of the crossing signals and is released when the crossing signals deactivate. Preemption is the transfer of normal traffic signal operation to a special control mode by an interconnection between crossing and traffic signals. Preemption at a crossing is designed to clear the track of vehicles prior to train arrival at a crossing. (Advance preemption is preemption initiated prior to crossing signal activation.)

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[1] SVHO succeeded Genesee & Wyoming subsidiary Golden Isles Terminal Railroad operation of the line in 2019. SVHO interchanges with CSX Transportation (CSXT) at Southover Yard south of downtown Savannah.

The crossing signals are controlled by an “island only” track circuit without any approach track circuits. The island only circuit activates the crossing signals only when trains are close to or occupying the crossing itself. The island only circuit requires trains to approach the island circuit at a slow speed, under the maximum track speed of 10 mph, such that the train crew can observe signal activation and lowered gates prior to the train arriving at the edge of pavement.

Also located in the vicinity of the E. President Street grade crossing is an approximately 2.1 mile-long railroad right-of-way parallel, adjacent to and south of E. President Street from General McIntosh Boulevard to Seapoint Boulevard. This right-of-way is shown on a 1917 railroad valuation (val) map from 1917 and Chatham County GIS online mapping. The val map identifies the Central of Georgia Railway, a Norfolk Southern Railway (NS) subsidiary, as the right-of-way owner. There is no active track on this right-of-way segment as of 2024. The track formerly crossed the current SVHO alignment at grade directly south of the E. President Street crossing, and there was a connection between the two railroads southeast of the former diamond location.

Existing Railroad Operations

SVHO serves its customers typically at night Monday through Friday, but switching operations may occur at any time throughout the day. Railroad operations are typically limited to between 5:00 am and 5:00 pm on Saturdays and Sundays.

It is important to note that railroad operations are dependent on many factors including but not limited to delays interchanging cars with CSXT, track and motive power maintenance, crew availability, and special switch requests by customers, etc. For these reasons, there is no reliable schedule that can be planned for or predicted for SVHO operations and train movements, and switching may occur 24 hours a day, seven days a week. Railcars for SVHO customers are switched and staged at four and five track yards off of the Wharf Lead located north of the E. President Street crossing. As shown in Figure 8, the nearest yard switch is located approximately 600 feet north of the E. President Street crossing. An industry track switch and other yard switches are located between 750 and 1,100 feet north of the crossing. The four-track yard serves three riverfront customers. The northern three tracks of the five-track yard are double ended with turnouts on each end. The southern two tracks are 900-ft. long stub tracks accessible from only the south end of the yard.

Switching movements that involve selecting a railcar 600 feet from the yard switch within a group of cars may cause the train to block the E. President Street crossing. Assembling long cuts of cars from multiple tracks for departure to the Southover Yard (6 miles southwest of the project) that involves releasing hand brakes and charging air brakes, then performing an air brake test, in particular may block the crossing continuously for an extended period. That process, in combination with longer train car sets, compounds the delay.

Figure 8: SVHO Wharf Lead Track yards north of crossing

2.7 Environmental Evaluation

This environmental screening report includes preliminary evaluations of the environmental resources within the study area. The project team conducted an initial analysis of historic, archaeological, and ecological resources. Further investigations would be required in later phases after a preferred alternative is selected.

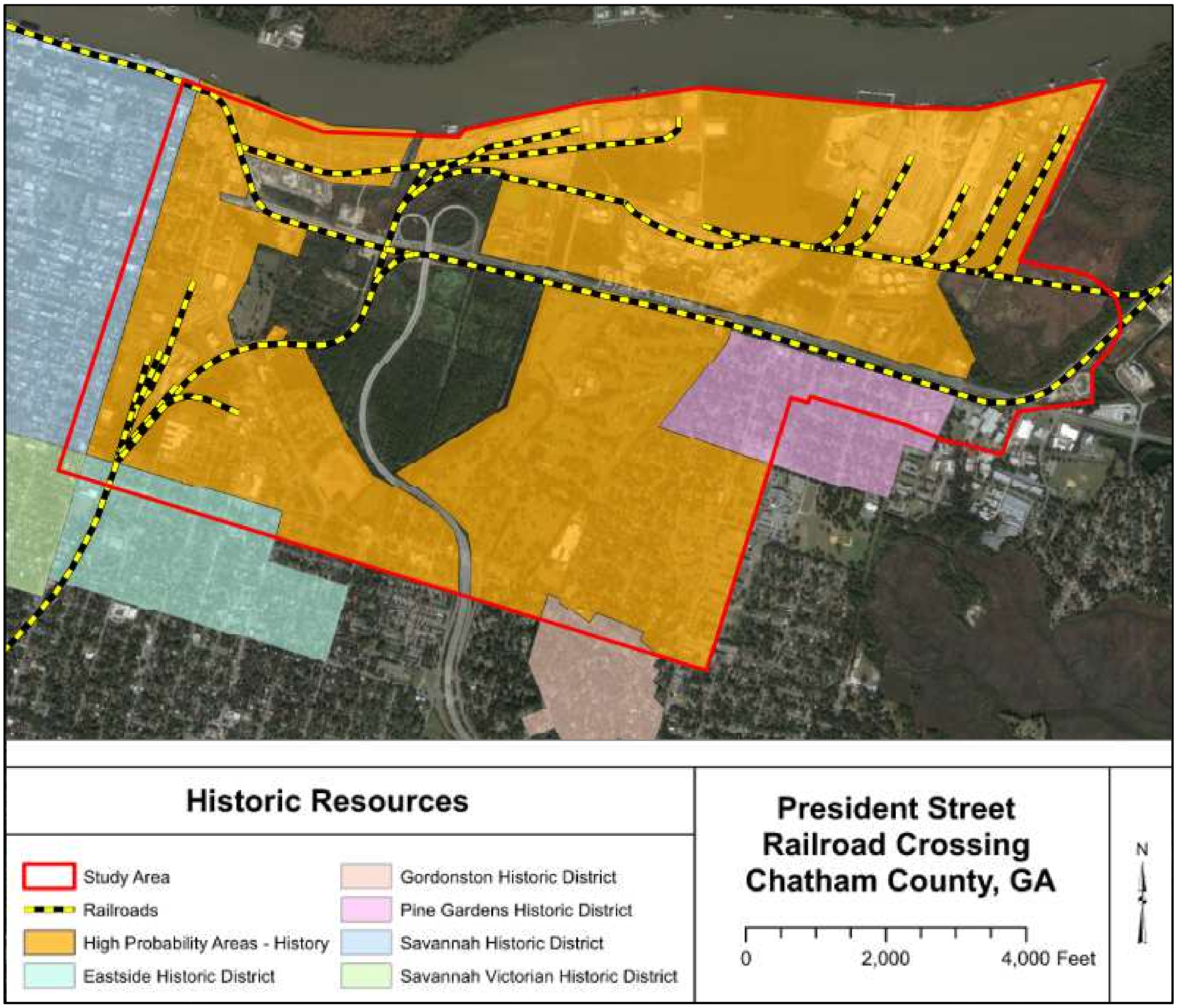
Historic Resources

The project was screened for historic resources that could be potentially eligible for listing in the National Register of Historic Places (NRHP). Data pertaining to the study area was analyzed using Georgia's Natural, Archaeological, and Historic Resources GIS (GNAHRGIS), Chatham County's tax assessor records, the NRHP database, Google Street view, USGS topographic maps, and historic aerial photographs. Background research indicated a high probability of containing resources that are 50 years old or older. Five NRHP-listed Historic Districts that contain contributing resources are present within the study area and are shown below in Table 5 and in Figure 9.

Table 5: Historic Districts within the Study Area

Historic District
Eastside Historic District
Gordonston Historic District
Pine Gardens Historic District
Savannah Historic District
Savannah Victorian Historic District

Figure 9: Historic Resources



Archaeological Resources

Background research was conducted to identify previously recorded archaeological sites within the study area. This included a review of the NRHP database, Georgia Archaeological Site File, GNAHRGIS, USGS topographic maps, Georgia Cemetery Locator, and historic aerial imagery. The study area contains 24 previously recorded archaeological sites and three cemeteries, listed below in Table 6. Ten of the archaeological sites have been determined or recommended eligible for inclusion in the NRHP, ten have been recommended ineligible for inclusion in the NRHP, and four have unknown eligibility. The study area contains a high number of sites with shell middens, as shown in Figure 10.

Table 6: Archaeological Sites within the Study Area and their NRHP Eligibility

Site	Eligibility	Site	Eligibility
9CH2	Unknown	9CH1158	Ineligible
9CH4	**Determined Eligible**	9CH1159	**Eligible**
9CH43	Ineligible	9CH1160	**Eligible**
9CH54	-	9CH1217	Ineligible
9CH378	-	9CH1235	Ineligible
9CH671	Ineligible	9CH1414	Ineligible
9CH938	Ineligible	9CH1421	Ineligible
9CH1039	**Eligible**	9CH1428	**Eligible**
9CH1040	Ineligible	9CH1429	**Eligible**
9CH1066	**Determined Eligible**	9CH1430	**Eligible**
9CH1067	**Determined Eligible**	9CH1453	Ineligible
9CH1094	**Eligible**	9CH1535	-

Figure 10: Archaeological Resources

Therefore, when a Phase I archaeological survey is conducted for the project alignment, it is anticipated that there is a high probability of identifying additional shell middens. A Phase I archaeological study would be needed to determine the presence of additional archaeological sites.

Protected Species

Background research, using U.S. Fish & Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) and GNARHGIS online mapping portals, was conducted to identify all federal and state protected species that could occur in the study area.

The study area is located within the range of 17 federal and state protected species. Of the 17 species, the study area may provide suitable habitat for 15 species. The species are listed below in Table 7.

Table 7: Study Area Protected Species

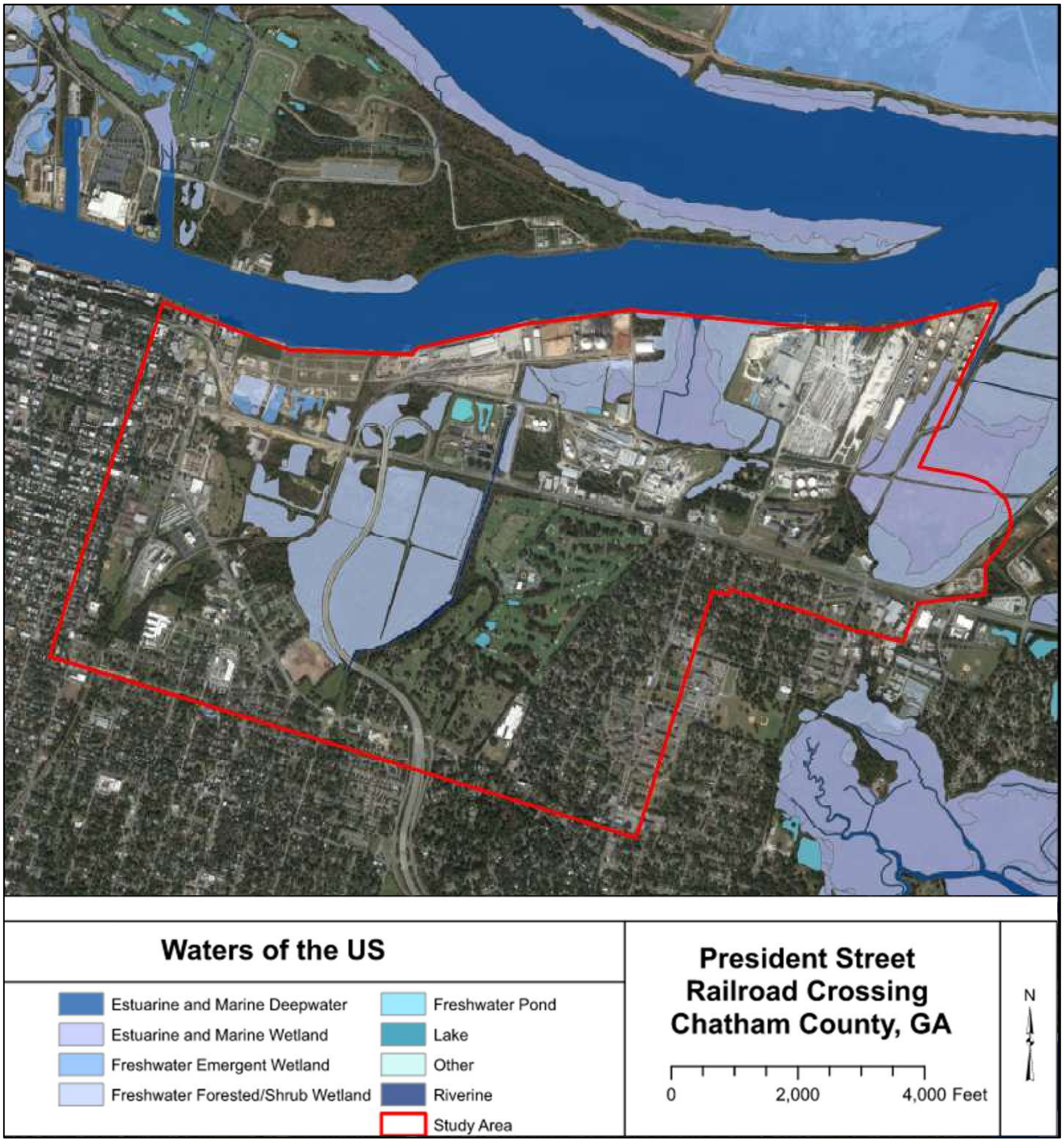
Common Name	Scientific Name	Federal Status	State Status
Monarch Butterfly	*Danaus plexippus*	Candidate	-
Northern Long-eared Bat	*Myotis septentrionalis*	Endangered	Endangered
Tricolored bat	*Perimyotis subflavus*	Proposed Endangered	-
West Indian Manatee	*Trichechus manatus*	Threatened	Endangered
Eastern Black Rail	*Laterallus jamaicensis ssp. jamaicensis*	Threatened	Threatened
Wood Stork	*Mycteria americana*	Threatened	Endangered
Eastern Indigo Snake	*Drymarchon couperi*	Threatened	Threatened
Pondberry	*Lindera melissifolia*	Endangered	Endangered
Altamaha Arcmussel	*Alasmidonta arcula*	-	Threatened
Spotted Turtle	*Clemmys guttata*	-	Unusual
Bluebarred Pygmy Sunfish	*Elassoma okatie*	-	Endangered
Robust Redhorse	*Moxostoma robustum*	-	Endangered
Bald Eagle	*Haliaeetus leucocephalus*	-	Threatened
Gopher Frog	*Lithobates capito*	-	Rare
Diamondback Terrapin	*Malaclemys terrapin*	-	Unusual
Hooded Pitcherplant	*Sarracenia minor var. minor*	-	Unusual
Least Tern	*Sternula antillarum*	-	Rare

Waters of the US

The National Wetlands Inventory (NWI) maps was reviewed to identify the presence of jurisdictional waters of the US within the study area.

These resources indicate the presence of 2 streams, 8 open waters, 45 wetlands, and 3 areas of estuarine and marine deepwater within the study area as shown in Figure 11.

Figure 11: Waters of the US



2.8 Utilities Summary

Utilities are prevalent along the E. President Street corridor in the area between Pennsylvania Avenue and Randolph Street. Utilities with facilities along this corridor include Southern Company Gas, ATT/distribution, Comcast, Georgia Power Company distribution and transmission, City of Savannah Water and Sewer, and Uniti Fiber.

Southern Company Gas maintains a 12”, high pressure, steel gas main along E. President Street with a large regulator station at the intersection of Goebel Ave. This main is considered a transmission main for Southern Company Gas and it may run on an easement along E. President Street. If this gas main is on an easement, it will be costly to relocate.

ATT/distribution has both aerial and buried facilities that consists of copper and fiber optic cables that span the E. President Street corridor, with a slick site at the intersection of E. President Street and General McIntosh Boulevard.

Comcast has aerial and buried fiber and coax cables along E. President Street as well, relocations of these facilities should be at no cost to Chatham County.

Uniti Fiber also has fiber facilities along E. President Street, relocation should be at no cost to Chatham County.

Georgia Power Company has both distribution and transmission lines along E. President Street. Due to the nature of this project, there is as high probability that multiple transmission and distribution poles will be impacted therefore needing relocation. Georgia Power Company lines are typically located on Georgia Power Company easement which would mean their relocations would be eligible for reimbursement. There is also a small substation at General McIntosh Boulevard. Relocating a typical transmission pole is approximately $250,000, or more, per pole. Relocating multiple poles will be costly.

The City of Savannah maintains multiple water and sewer lines along E. President Street. Water main sizes are as follows; 8” (2), 16”, 24” (2). Sewer main sizes along this corridor are as follows; 24”FM and 48” SS along with multiple storm drain facilities.

Figure 12 – Figure 15 show the existing utilities inventoried within the study area that may be impacted by the proposed alternatives.

Figure 12: Gas Utilities

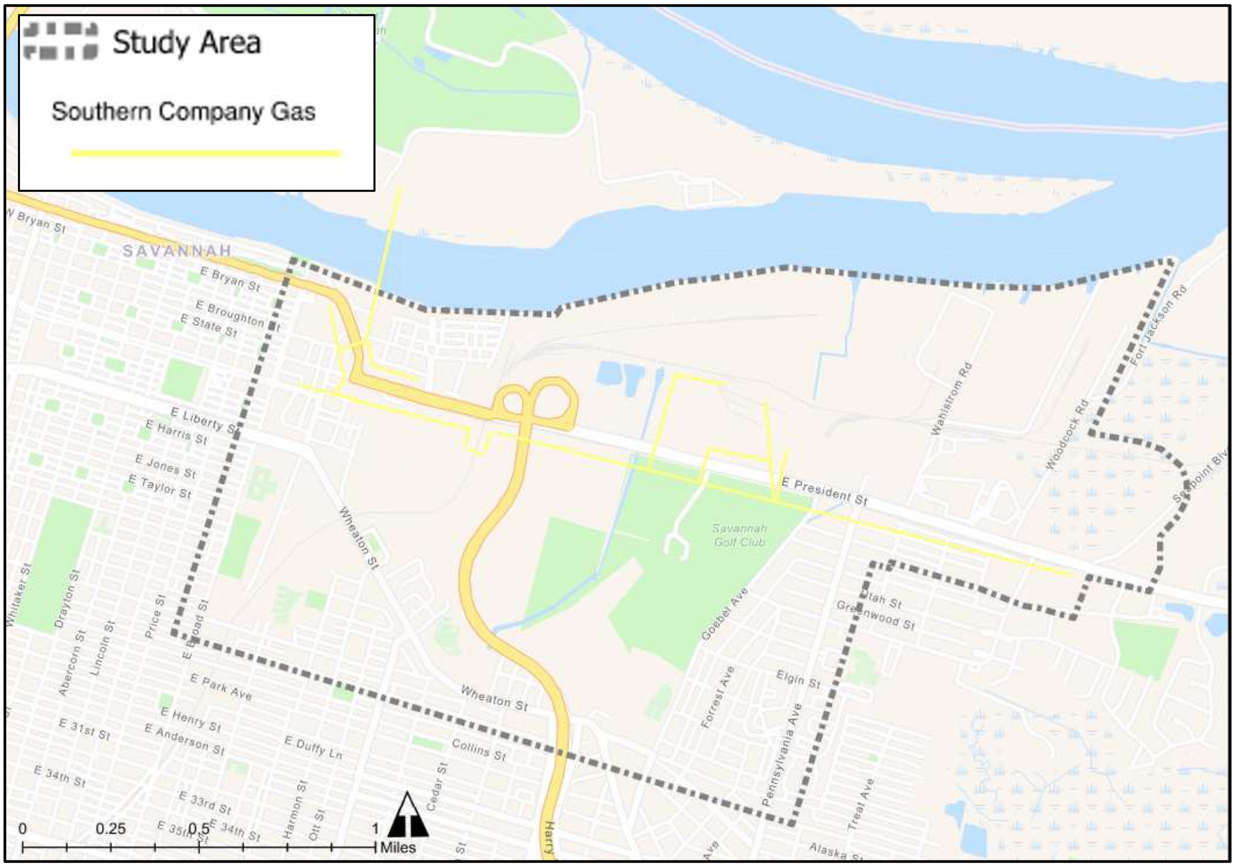


Figure 13: Telecommunications Utilities

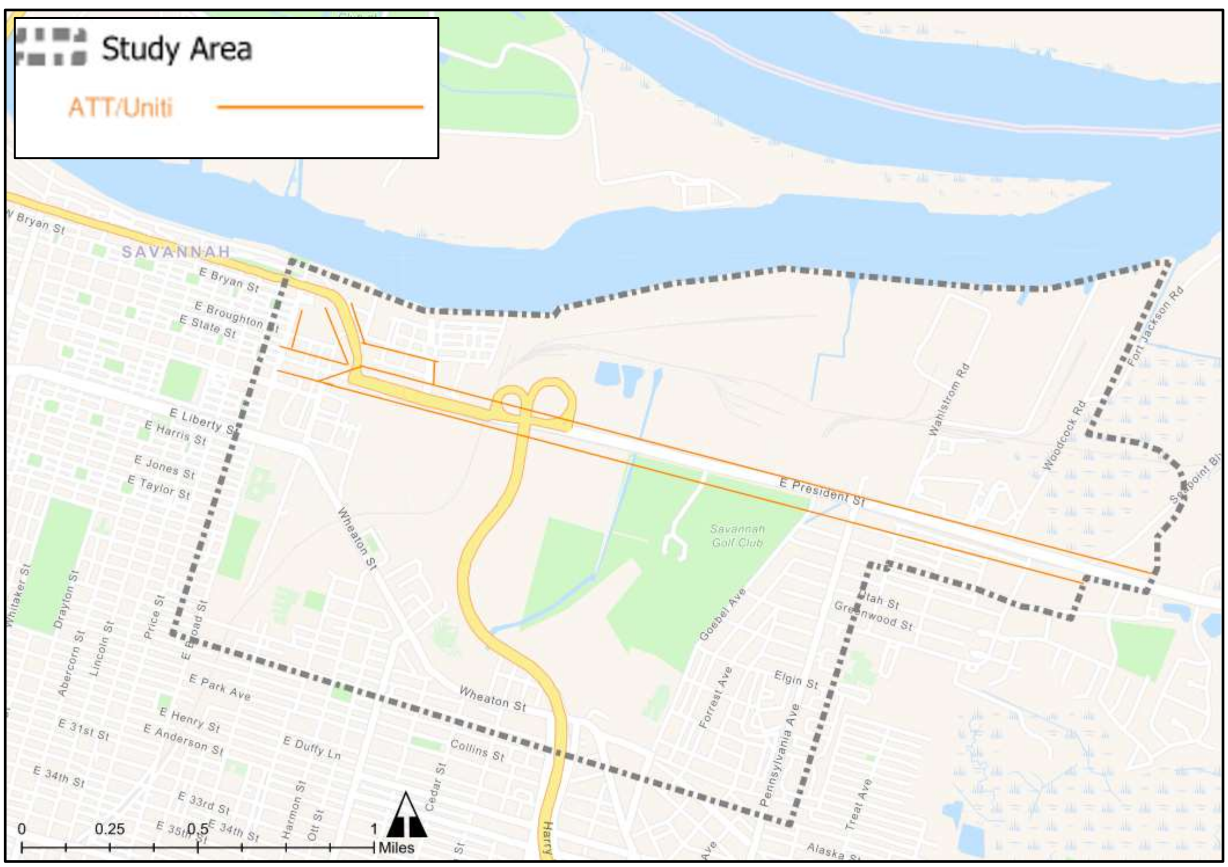


Figure 14: Georgia Power Company Utilities

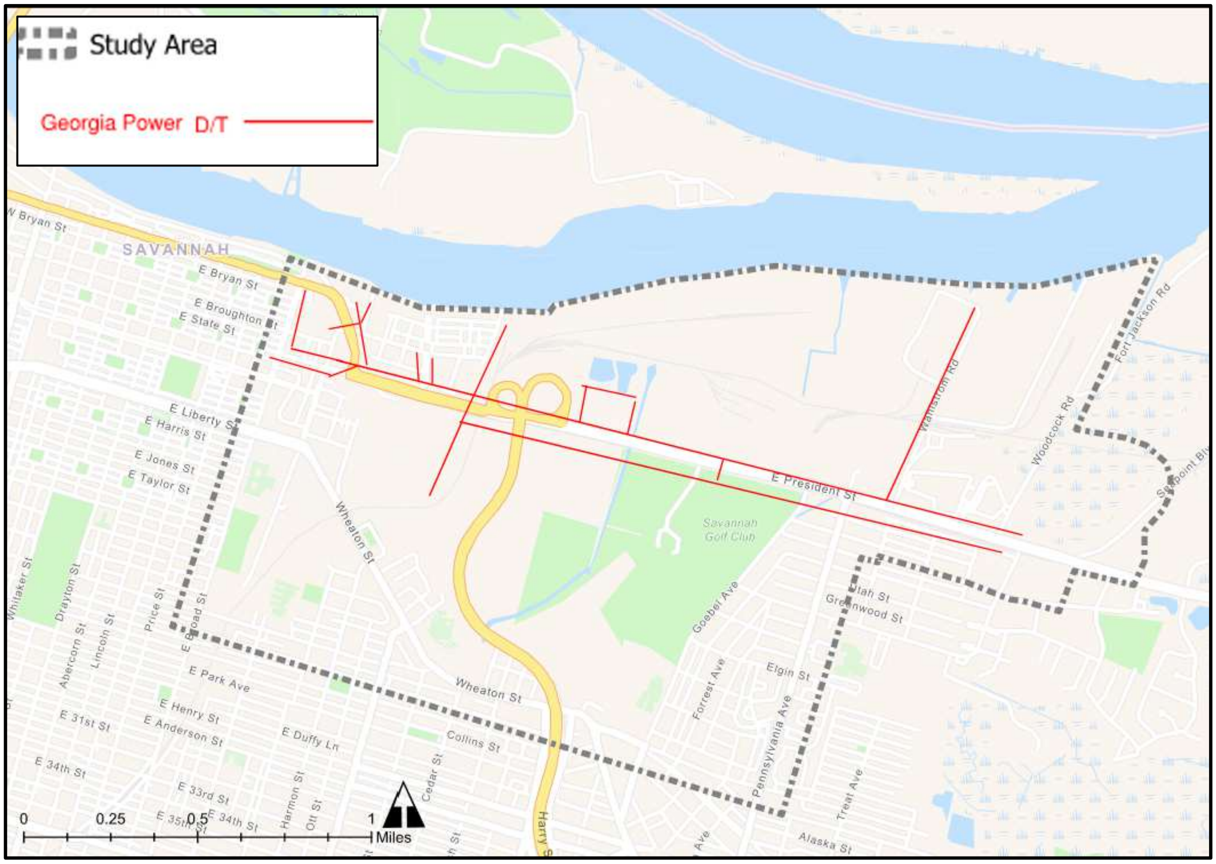
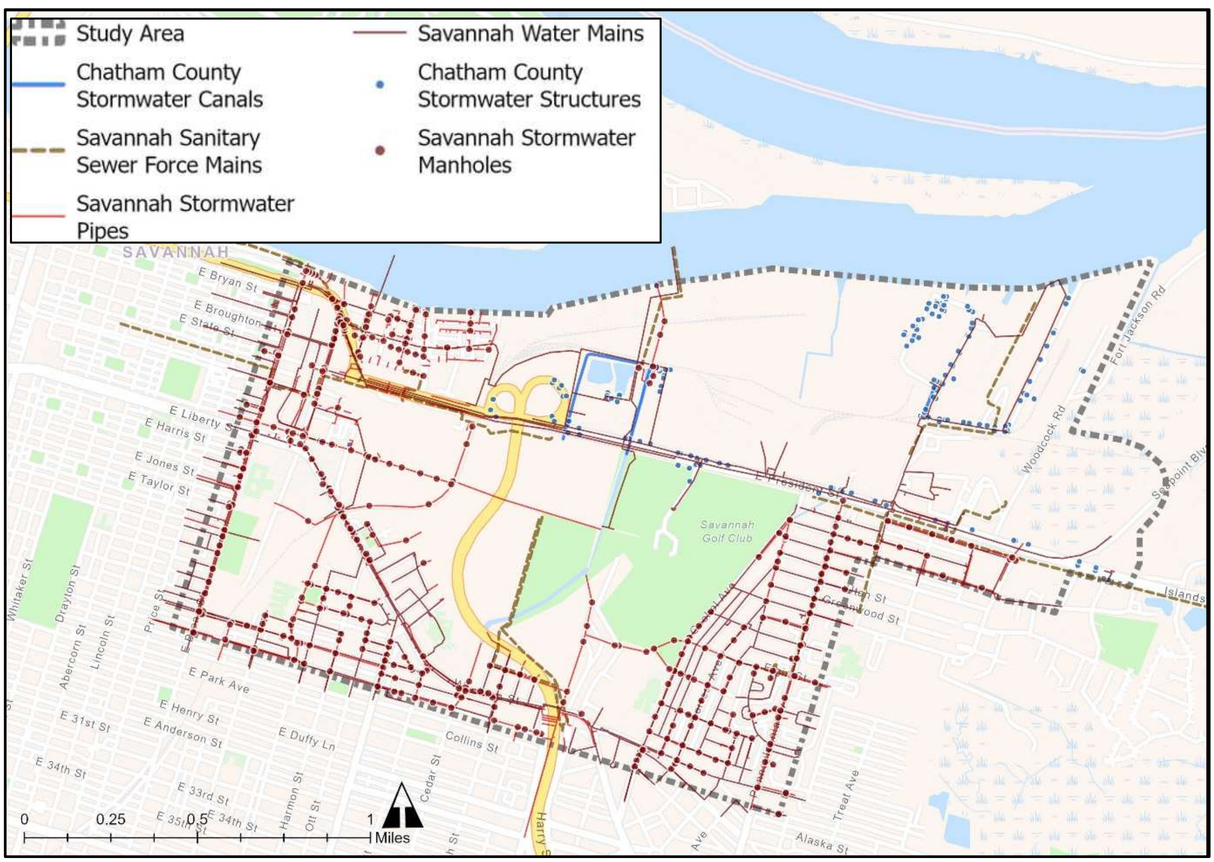


Figure 15: Water Utilities



3.0 Future Conditions

Building on the baseline condition analysis along the E. President Street corridor, this section evaluates those conditions in the context of future scenarios to identify the best alternative for eliminating the railroad grade crossing while preserving and improving mobility with and without the project. The analysis involved projecting future design-year traffic volumes and evaluating those volumes under various proposed alternatives.

Given the size and scope of this study, both a qualitative and quantitative analysis is needed. A qualitative analysis outlines the goals for the project and how those goals can be achieved through a number of possible alternatives, whereas a quantitative analysis involves analyzing physical data and constraints to determine the feasibility and reasonableness of the alternatives being considered.

3.1 Future Conditions Analysis Methodology

This section provides details related to the assimilation and analysis of data involved with analyzing the future traffic conditions in coordination with planned area development. While the primary focus of this study concerns the elimination of the existing railroad grade crossing, the project should also align with a comprehensive vision that includes vehicular, transit and pedestrian activities.

Design Traffic Development

The development of the future 2050 Design Year traffic volumes with which to analyze the various alternatives included establishing a background growth rate using historic and established forecast traffic volume data from a variety of sources, as well as including specific major planned local development that would directly affect the project corridor.

The Existing Conditions (2024) traffic volumes were developed using the vendor-collected traffic counts previously mentioned. For the future scenario planning level analysis, an Opening Year (2030) and Design Year (2050) were chosen. For the future scenario traffic forecasts, growth rates were determined from a combination of:

1) GDOT historical traffic counts,
2) Regional CORE MPO travel demand model (TDM) volume forecasts, and
3) Census population data from the Georgia Governor's Office of Planning and Budget.

These sources were reviewed to develop a compound annual growth rate of 1.5% for E. President Street and Truman Parkway used to develop the background traffic growth within the project area. Details of the traffic forecasting process and its development are included in Attachment A.

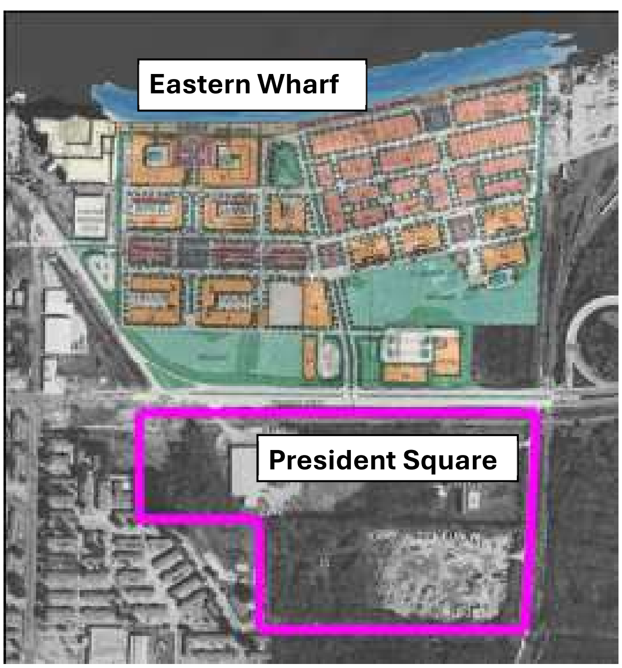
Trip Generation / Planned Development

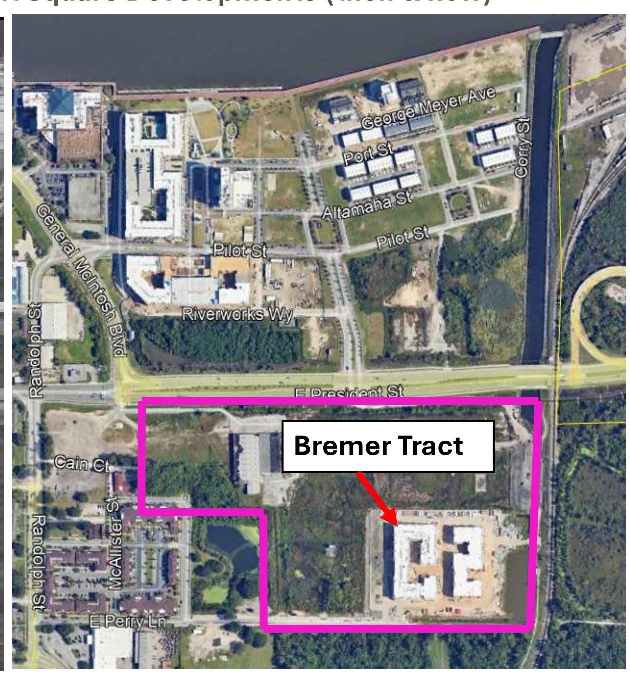
In addition to the background traffic growth, future traffic volumes used for the planning analysis of the three design concept alternatives for the E. President Street Railroad crossing elimination study include trips generated for known planned developments immediately adjacent to the project corridor.

Based on a combination of information obtained from prior studies, the most recent available site data and correspondence with city and county officials, there are two known planned developments that will directly impact the project corridor. Both are located west of the grade crossing on either side of E. President Street, consisting of the Eastern Wharf (formerly Savannah River Landing) development fronting E. President Street to the north occupying the space between E. President Street and the river, and the President Square (formerly North Point) development fronting E. President Street to the south.

Both the Eastern Wharf and President Square developments are of a mixed-use nature, and were specifically referenced in the February 16th, 2007 President Street Concept Development report[2] that included a detailed Trip Generation and Internal Trip Capture analysis. That analysis provided specific land uses, including square footage for office and retail as well as number of units for residential and hotel structures for the Eastern Wharf development on the north side of E. President Street. The report then assumed the same development assumptions for The President Square development on the south side of E. President Street. Both developments as they were originally shown in the 2007 study are shown below in Figure 16 on the left. In the 17 years since that report, the Eastern Wharf district has been in the process of being developed and is roughly 50% built out based on current (May 2024) aerial mapping shown below Figure 16 in on the right. A portion of the President Square district called the Bremer Tract is currently in the construction phase and includes 20 townhomes and two apartment buildings consisting of approximately 291 apartments[3]. That development currently plans for on-site parking and assumes access via E Perry Lane and Randolph Street. Although that 2021 study provides more updated trip information, it is limited to just that parcel, which was already included in the original 2007 study; therefore, in order to provide the larger long-range traffic impact to E. President Street, it was decided to stay with the data provided in the 2007 study.

Figure 16: Eastern Wharf & President Square Developments (then & now)





[2] RS & H Partners
[3] Bremer Tract Preliminary Traffic Analysis memorandum, March 11, 2021; Thomas & Hutton

Table 8 below shows the estimated trips generated by the Eastern Wharf master development plan from the 2007 study with the same reduction rate assumptions for mixed-use developments but using current trip generation rates[4]. This data was then also assumed for the President Square development on the south side of E. President Street.

Table 8: Eastern Wharf Trip Generation

Eastern Wharf Trip Generation (based on 2007 study data)			*Daily*			*AM*		*PM*	
ITE #	*Land Use / Name*	*(SF)/ Units*	*Total*	*Enter*	*Exit*	*Enter*	*Exit*	*Enter*	*Exit*
820	*Shopping Center (188,500 SF)*	*188,500*	10,785	5,400	5,400	150	95	430	465
710	*General Office (150,000 SF)*	*150,000*	1,651	825	825	210	30	40	195
	Total ***Retail***		12,436	6,225	6,225	360	125	470	660
	Mixed-use Reduction Rate		15%	17%	17%	18%	17%	18%	17%
210	*Single-family Residential Houses (17)*	*17*	160	75	75	5	10	10	5
215	*Single-family Residential Townhomes (844)*	*844*	6,077	3,050	3,050	100	305	285	195
310	*Hotel (350 rooms)*	*350*	2,797	1,400	1,400	90	70	105	100
	Total ***Residential***		9,034	4,525	4,525	195	10	400	300
	Mixed-use Reduction Rate		15%	17%	17%	0%	0%	18%	17%
	Total Net Trips (Retail & Residential)		**18,250**	**8,920**	**8,920**	**490**	**115**	**715**	**800**

The above data was used for both developments and was distributed and assigned to the external roadway network as follows: (Trip Generation development is included in Attachment B)

- Future projected trip generation volumes were assigned according to existing AM and PM peak hour volumes and turning movement percentages at the five studied intersections for all future scenarios (build and no-build).

- Primary access for both developments was assumed to occur at an expanded four-way intersection on E. President Street at E Boundary Street, with the following volume reductions based on available ASTPM[5] hourly volume data where applicable as follows:

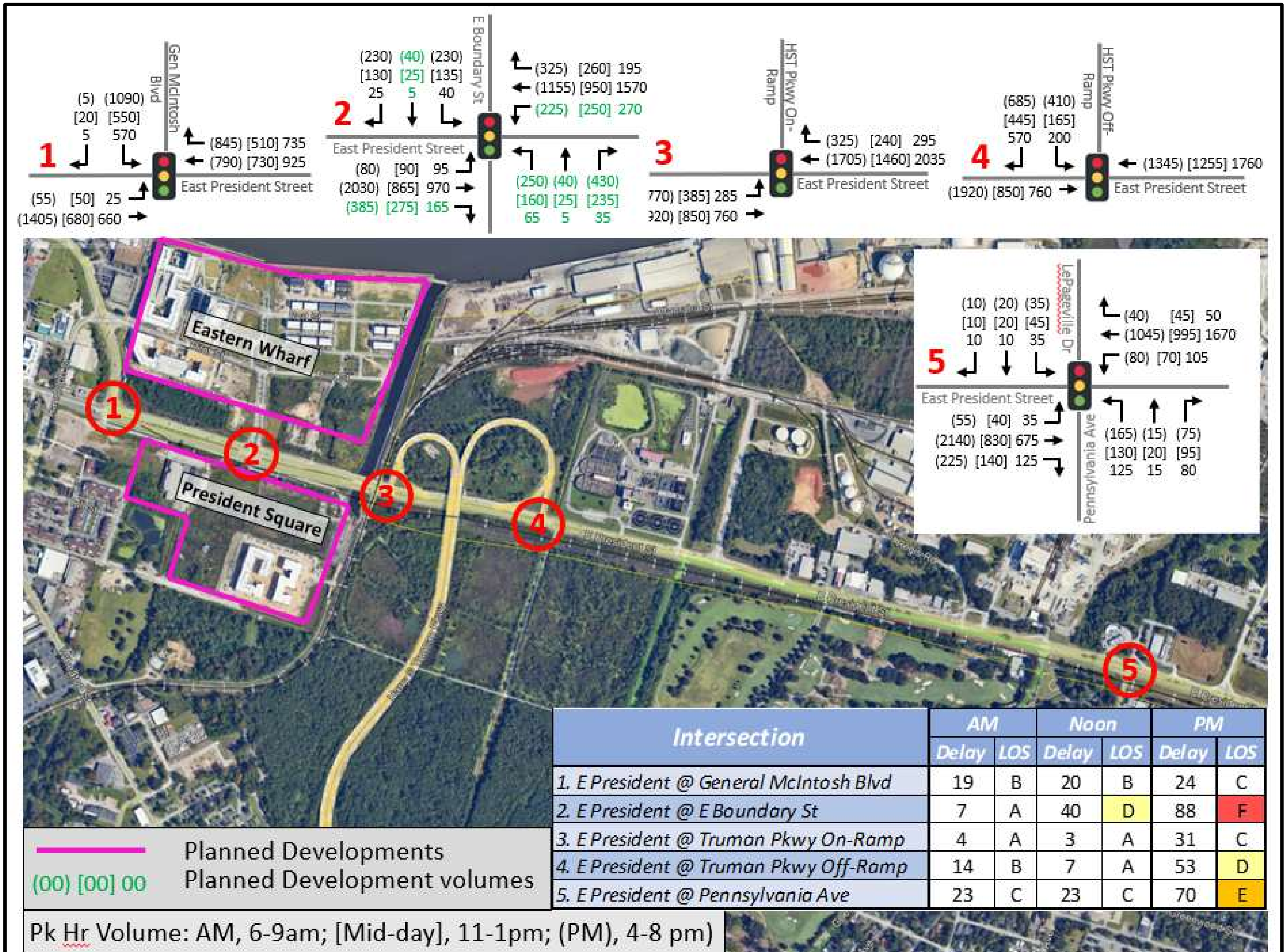
    - For the Eastern Wharf development, a 40% reduction factor was applied to account for vehicles using General McIntosh Boulevard to enter/exit the development.

    - For the Presidents Square development, a 10% reduction factor was applied to account for vehicles using Randolph Street and E Perry Lane to enter/exit the development.

The future trip generation was then combined with the projected background volumes to develop the overall future peak-hour traffic volumes for the 2030 Opening and 2050 Design Years, as shown in Figure 17 and Figure 18.

[4] Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021
[5] Automated Traffic Signal Performance Measures (ATSPM)

Figure 17: 2030 Opening Year Peak Hour Volumes and LOS (No-Build Condition)



Intersection	AM		Noon		PM	
	Delay	LOS	Delay	LOS	Delay	LOS
1. E President @ General McIntosh Blvd	19	B	20	B	24	C
2. E President @ E Boundary St	7	A	40	D	88	F
3. E President @ Truman Pkwy On-Ramp	4	A	3	A	31	C
4. E President @ Truman Pkwy Off-Ramp	14	B	7	A	53	D
5. E President @ Pennsylvania Ave	23	C	23	C	70	E

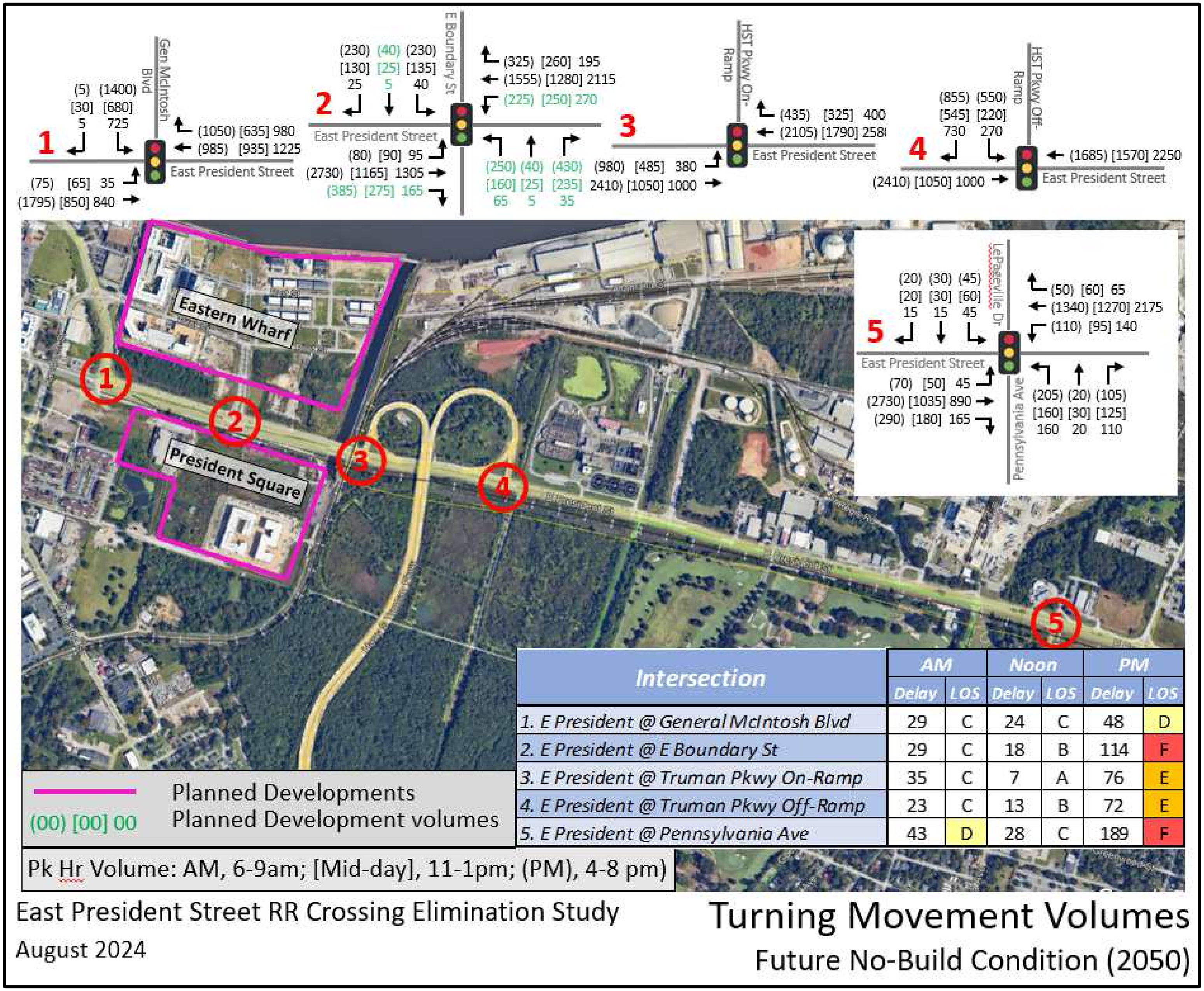
East President Street RR Crossing Elimination Study

November 2024

Turning Movement Volumes

Future No-Build Condition (2030)

Figure 18: 2050 Design Year Peak Hour Volumes and LOS (No-Build Condition)



Intersection	AM		Noon		PM	
	Delay	LOS	Delay	LOS	Delay	LOS
1. E President @ General McIntosh Blvd	29	C	24	C	48	D
2. E President @ E Boundary St	29	C	18	B	114	F
3. E President @ Truman Pkwy On-Ramp	35	C	7	A	76	E
4. E President @ Truman Pkwy Off-Ramp	23	C	13	B	72	E
5. E President @ Pennsylvania Ave	43	D	28	C	189	F

3.2 Capacity Analysis

Using projected traffic volumes, a capacity analysis was conducted to compare existing 2024 conditions with projected 2050 conditions under various scenarios, including a No-Build option and two future build alternatives[6].

This analysis primarily relies on two software tools: Synchro, for assessing operations at individual intersections, and VISSIM, a microsimulation model that evaluates the average vehicle delay across the corridor. The following provides a brief overview of the purpose and methodology of these tools.

Using Synchro and VISSIM together provides a comprehensive approach to evaluating roadway network performance by combining high-level planning with detailed simulation. Synchro, widely used for traffic signal optimization, offers a macroscopic view of the network traffic flows for peak hour volume conditions to give quick, preliminary insights. It allows for a quick somewhat static analysis of a variety of network-wide scenarios under different peak hour volume conditions to identify potential issues and assess basic metrics like Level of Service (LOS), delay, and queue length at intersections. This is often sufficient for early-stage design assessments. However, Synchro is not able to analyze outside factors, like blocked railroad crossings, and the compounding effect of those events.

VISSIM[7], in contrast, provides a more dynamic microscale analysis by simulating individual vehicle movements, offering a highly detailed view of traffic flows and driver behavior during the course of a prescribed amount of time. Unlike Synchro, it can also assess the compounding effect of outside interruptions such as blocked crossing events, and how that impacts the overall flow of traffic, and the delay experienced by drivers. Using the same input volumes as in Synchro, it can analyze more complex scenarios such as how the effects of congestion at one intersection can impact those downstream and areas with significant lane changes or congestion in real time.

Analysis Methodology

With respect to this project, Synchro incorporated the actual signal timing plans from the five coordinated signalized intersections along E. President Street to then develop optimized signal timing plans for the future No-Build and Build condition scenarios. Those signal timings were then imported into VISSIM, allowing for a realistic test and refinement of those plans under simulated traffic conditions, providing insights into vehicle interactions and fine-tuning of signal coordination. However, in order to have a more informed interpretation of the analysis, it is important to understand each of the five intersections in context to each other and their function with respect to each other, both currently and in the future.

The primary factor dictating intersection performance and thus the reported LOS, are the projected turning movement volumes, lane configurations and signal timing at each intersection. Each intersection has a unique set of circumstances that affect its overall performance, both individually and within the project corridor. Below is a short but important discussion of each intersection that

[6] A short-term future alternative will be discussed in more detail later and is not included in this analysis as it is intended only for the short term.

[7] The name is derived from *"Verkehr In Stadten – SIMulationsmodell"* (German for "Traffic in cities – simulation model").

will help provide context and better understanding of their unique circumstances and role within the corridor. This discussion will also serve as a baseline from which to discuss the impact of the Build alternatives to the whole corridor. The reader is encouraged to refer back to Figure 17 and Figure 18 for this discussion.

General McIntosh Boulevard

- Although it is currently striped and signalized as a four-way intersection, it currently functions as a three-way intersection with the primary movements occurring to and from General McIntosh Boulevard as the primary origin and destination for traffic to and from Savannah.
- The intersection was analyzed in Synchro using the existing signal timing database and all four legs for the 2024 existing condition. However, all future build scenarios assumed no changes and therefore the intersection was modeled as a three-leg intersection.
- Given the signal equipment already installed, it is very possible and likely that the city assumes the use of the south leg as a possible secondary access point to the new President Square development. However, as no specific information was available at the time of this study as to the extent of its use as a primary or secondary access point for the President Street development, no Trip Generation assumptions were made and are beyond the project scope.
- This intersection currently has the lowest LOS for the corridor as a result of signal timing that must accommodate the heavy PM left-turn volumes along with the heavy eastbound thru volumes. The existing double left-turn lane is currently adequate to handle this demand. Rather than adding a third left-turn lane to accommodate future projected volumes, traffic will more than likely divert itself. Triple-left turns are rare in these situations, as it would impact thru traffic onto westbound E. President Street. Traffic will need to dissipate through other intersections.
- Currently the first four intersections are located approximately 1,000 feet apart, the preferred minimum standard distance between intersections for an optimized signalized network along a multi-lane urban arterial roadway such as E. President Street.

E Boundary Street

- Similar to General McIntosh Boulevard, while configured as a four-way intersection, it currently functions as a three-way intersection.
- This study assumes this will be the primary access for both developments currently under construction and therefore analyzed as a four-way intersection under all future conditions with no changes to E. President Street.
- This intersection will become a key focal point in the future, depending on the final President Square development layout and access, and the possible utilization of a secondary entrance at the intersection with General McIntosh Boulevard to help reduce overall volumes.
- Regardless of the number of access points, the amount of origin / destination traffic from east of this intersection would remain the same, creating similar demands for turning movements to/from Truman Parkway and overall thru traffic on E. President Street.
- Transitions approaching and departing this intersection, specifically weaving movements, created by both of the two long-term alternatives on E. President Street may present design challenges that would need to be addressed.

Truman Parkway SB On-Ramp

- This intersection is located just east of the grade crossing and currently functions as a two-way intersection, with thru traffic on E. President Street interrupted by the eastbound turning movements onto southbound Truman Parkway.
- Currently, this intersection functions at a high LOS but is directly affected by blocked crossing events, impacting upstream and downstream intersections, and interrupting both eastbound left-turns and creating queues on westbound E. President Street impeding access to the free-flow ramp onto southbound Truman Parkway.

Truman Parkway NB Off-ramp

- This intersection is located approximately 1,000 feet east of the SB On-Ramp and also functions as a two-way intersection, with thru traffic on E. President Street interrupted by the southbound left-turning movements from Truman Parkway.
- Currently, this intersection also functions at a high LOS; however, extended queues resulting from blocked crossing events can impede both left- and right-turning movements from the off-ramp onto both east and westbound E. President Street.
- Both of these intersections function well outside of blocked crossing events; however, the location of these two intersections with respect to the grade crossing will exacerbate congestion and delay in the future if no improvements are made.

Pennsylvania Avenue/LePageville Drive

- This four-way intersection is located approximately 4,500 feet (0.85 mi) from the Truman Parkway Off-ramp and currently functions at a reasonable LOS. At times, extended blocked crossing events can extend back to this intersection.
- Future LOS at this intersection will continue to decline independent of the grade crossing or build alternatives and is more of a function of side street delay increasing proportionally with the volumes on E. President Street.

Synchro Analysis

The 2030 and 2050 intersection operations within the study area were analyzed using Synchro for each of the five major intersections, as in the Existing Conditions report. The results, shown alongside projected volumes, indicate a failing Level of Service (LOS) at one intersection and a declining LOS at two others by 2030 (see Figure 17). By 2050, conditions are expected to worsen further, with four out of the five major intersections projected to have either failing or near-failing LOS (see Figure 18). Details of the Synchro analysis is provided in Attachment C.

VISSIM Network Delay Analysis

As previously discussed, the VISSIM analysis used the signal timing plans from Synchro while also including actual train data in the form of blocked crossing events experienced by motorists in real time. Both field traffic counts and train crossing data were obtained within the project corridor on March 19-20, 2024. Both of these sets of data were then broken down and correlated into consistent time intervals for input into the model for the three peak hour time periods. It was important to capture actual train and traffic volume data together during the same time period to accurately model the impact of blocked crossing events for the 2024 Existing conditions. The actual train data captured is shown in Figure 7 (Section 2.5) and is organized into the three peak hour time periods analyzed for this study. The train data from Figure 7 was then used in future VISSIM model simulations for the 2050 No-Build and Build Alternative scenarios. A more step by step approach to the VISSIM modeling process is provided below, and details of the model inputs are provided in Attachment D.

Delay Methodology

Delay experienced by drivers is quantified as delay per vehicle, or vehicle delay and is measured in seconds per vehicle. Delay is defined by the Highway Capacity Manual (HCM) as the additional travel time experience by a driver. It is taken as the difference between an ideal travel time and the actual travel time experienced under specific conditions. To determine the cost incurred by drivers, the delay is multiplied by a value of travel, in units of dollars per hour, to determine a delay value for both car and truck travel in terms of money, which is then used to determine the cost or cost savings of the project.

For a microsimulation model to be effective, reliable data streams must be used. This ensures that the model is appropriately validated, calibrated, and verified. The following data sources were used in the building of the model:

- 24-hour field traffic counts
- Regional Integrated Transportation Information System (RITIS) data
- Automated Traffic Signal Performance Measures (ATSPM) data
- Railway crossing information
- Max Time signal timing database sheets
- Field visit notes

RITIS is a platform that has aggregated data from serval sources and allows for the extraction of several metrics including travel times and speeds. Because of this, speeds and travel times were taken from RITIS and were set to be two of the calibration metrics from which to then determine vehicle delay. To ensure more accuracy, speeds were cross checked with GDOT count station speeds. Using the original project location map, six directional travel time paths were determined based on three “modeled” gates as the basis from which to gather travel time, and therefore delay, from the VISSIM model as shown below in Figure 19. These segments were determined to be critical in determining delay incurred by blocked crossing events under the future No-Build condition.

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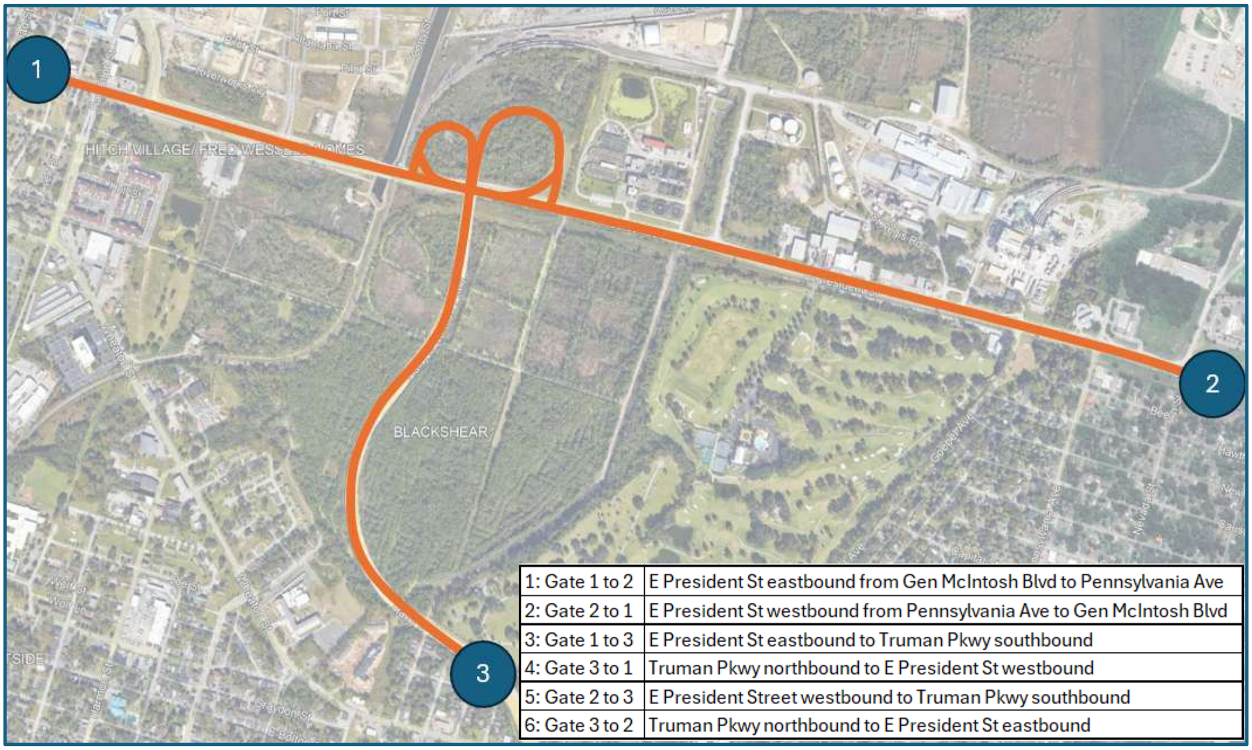
Figure 19: E. President Street Travel Time Gates



Model Methodology

A model of the existing 2024 network with the above travel time gates from Figure 19 was developed using the following process for model development and analysis:

1. Model Geometry – Existing and future road geometry was superimposed into the program based on available satellite imagery and existing field notes.

2. Signal Timing – Existing signal timing database files from MaxTime signal control software were replicated. Since the logic of the field deployed controllers are slightly different, pedestrian phase timing were eliminated due to conflicts in the signal timing. Coordination, schedules, and other pertinent information was kept constant.

3. Model Verification – Verify roadway network construction with existing geometry to ensure that intersection control and vehicle travel movements are as intended.

4. Model Calibration – Calibration involves changing the underlying model's parameters. This is achieved by changing car following and lane change parameters. As these parameters cannot be directly measured in the field, they must be derived from other measures such as travel time and speed. To calibrate the model, travel time was aimed to be withing 15% of the RITIS data. Speeds were changed to reflect the RITIS speeds. Volumes were balanced for 15-minute intervals. Volume was verified and checked to be within 10% of the balanced volumes. Volumes were entered in an intersection-by-intersection basis. Calibration would be done in a general manner. This means model calibration for one period would stand for the entire model.

5. Model Validation – Multiple sample runs were performed to observe traffic signal coordination and vehicular movements that replicate real life. Developed queue data from simple analysis was used to ensure that the model mimicked delay and queuing behavior both for when blocked crossing events occurred and also when trains were not present.

Future Delay Analysis

Once a baseline model of the existing conditions was properly built, future scenarios were applied to model the No-Build and Build condition alternatives in the following manner:

1. Incorporate future background traffic volumes previously discussed
2. Develop optimized signal timing from Synchro analysis of future conditions
3. Build model geometry for each future scenario and apply volumes in VISSIM
4. Develop and compare delay for the No-Build and Build alternatives
5. Convert delays to dollars and develop B/C Ratios using the developed tool

As previously discussed under the Analysis Methodology discussion for each intersection, the future No-Build scenario assumed no geometry improvements, except those anticipated at E Boundary Street for the assumed full buildout for both planned developments. The geometry for the two long-term build conditions included widening E. President Street to three thru lanes in each direction, along with necessary improvements and lane configurations required based on design parameters for each of the proposed long-term build alternatives.

Once built, all future VISSIM model scenarios were calibrated through trial runs. Modifications to geometry and signal timing were made as needed so that the models accurately reflected the planning level concept layouts. Additional observational runs were made to determine the impact each alternative's design would have on the flow of traffic, both at the intersection level and on the overall network to then allow for adjustments to be made to the signal controllers.

Once model geometries and network objects were consistently established for each alternative, vehicle delay metrics were gathered from model runs for all three future alternatives for the AM, Noon and PM peak hour time periods for all six travel time gate paths described in Figure 19. The results of these model runs were then compared to the existing baseline delay and to each other and then converted to a dollar amount to determine the average cost savings from the project, and ultimately a Benefit/Cost (B/C) Ratio. While the alternative with the highest B/C Ratio is usually recommended, there are a number of additional factors that ultimately come into play; however, a high B/C Ratio provides a very compelling argument for that particular alternative.

3.3 Description of Future Build Alternatives

Using all of the data and methodology previously discussed, this section will describe and analyze the unique attributes of each of the future build alternatives. A total of six roadway-based alternatives and three railroad-based alternatives were considered. Below is a summary of the goals of the project that helped guide the development and analysis of the possible alternatives. These goals were consolidated into a summary matrix shown in Figure 20 that provides a high-level assessment of how each alternative addresses each goal. In many cases, each alternative involved trade-offs between positive and negative impacts. The table serves as a planning-level analysis, using both objective and subjective metrics to rate each alternative.

Network Delay – Will the project reduce overall network delay?

Congestion – Will the project reduce congestion along E. President Street and at intersections?

Safety – Will the project reduce accident rates (at intersections)? Will it potentially induce new and/or undesirable points of conflict?

Constructability – Will it be difficult to build this project? How long will it be under construction?

Construction Cost – How much will these improvements cost?

Right-of-Way Impacts – Will additional ROW be necessary?

Environmental Impacts – Will this project affect existing wetlands? Will the project incur federal regulatory action? (includes other aspects of environmental impacts, such as emissions)

Utility Impacts – Will this project require the relocation of existing underground/overhead utilities?

Pedestrians/Bicyclists – Can pedestrian/transit facilities be incorporated into the project?

Transit - Will this project facilitate existing and future transit mobility?

Emergency Access – Will the project affect the dispatch/use by emergency vehicles?

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Figure 20: Alternatives Evaluation Matrix

Project Metric	Alternative 1: Additional Westbound Lane	Alternative 2: Bridge with Truman Parkway Elevated Green-T Intersection	Alternative 3: Bridge with Truman Parkway Elevated Green-T Trumpet Interchange	No Longer Considered	Alternative 4: Bridge with Truman Parkway Elevated Regular-T Intersection	Alternative 5: Bridge with Truman Parkway Elevated Reverse Cloverleaf Interchange	Alternative 6: Free-Flow Flyover Interchange	Alternative 7: Re-align Railroad to President Street	Alternative 8: Extend Storage Tracks Within Wharf Rail Yard	Alternative 9: Construct New Rail Yard South of President Street
Network Delay	✗	✓	✓		✓	✓	✓	✓	~	~
Congestion	✗	✓	✓		✗	~	✓	✓	~	~
Safety	✗	✓	✓		✗	~	✓	✗	~	~
Constructability	✓	✗	✓		✗	✗	✗	✗	✗	~
Construction Cost	✓	✗	✗		✗	✗	✗	✗	✓	✓
Right-of-Way Impacts	~	✓	✓		✓	✗	✗	✗	✓	✗
Environmental Impacts	~	~	~		~	✗	✗	✗	~	✗
Utility Impacts	~	✗	✗		✗	✗	✗	✗	✓	✗
Pedestrian/ Bicyclist	✗	~	~		~	✗	✗	~	~	~
Transit	✗	✓	✓		✓	✓	✓	~	~	~
Emergency Access	✗	✓	✓		✓	✓	✓	✗	~	~

✓ Positive Impact, ✗ Negative Impact, ~ Neutral Impact

Alternative 1 – Short-term Operational Improvement

The first build alternative includes the construction of a third westbound lane between the Truman Parkway ramps and extending this third lane through the crossing as shown below in Figure 21. The extent to which this improvement could be made is in part governed by an existing transmission pole that may need to be relocated.

Figure 21: Alternative 1 – Short-term Operational Improvement

Benefits & Costs

There is currently room for a third westbound lane across the canal bridge where the extended lane could tie into the existing three-lane section of E. President Street. East of the crossing, widening could begin at any point west of the Savannah Water Reclamation driveway. This improvement would provide an additional 1,180 feet for westbound queued vehicles as measured from the crossing stopline back to the existing stopline at the Truman Parkway off-ramp to allow 50% more vehicles per unit of time over the crossing to help expedite westbound post blockage queue dissipation. The additional lane would also provide an additional lane for hazmat vehicles and buses to stop at the crossing without affecting the moving queue, helping facilitate a smoother inbound morning flow of traffic from Truman Parkway, as no merge would be required.

Additional non-construction related improvements as part of this alternative could include:

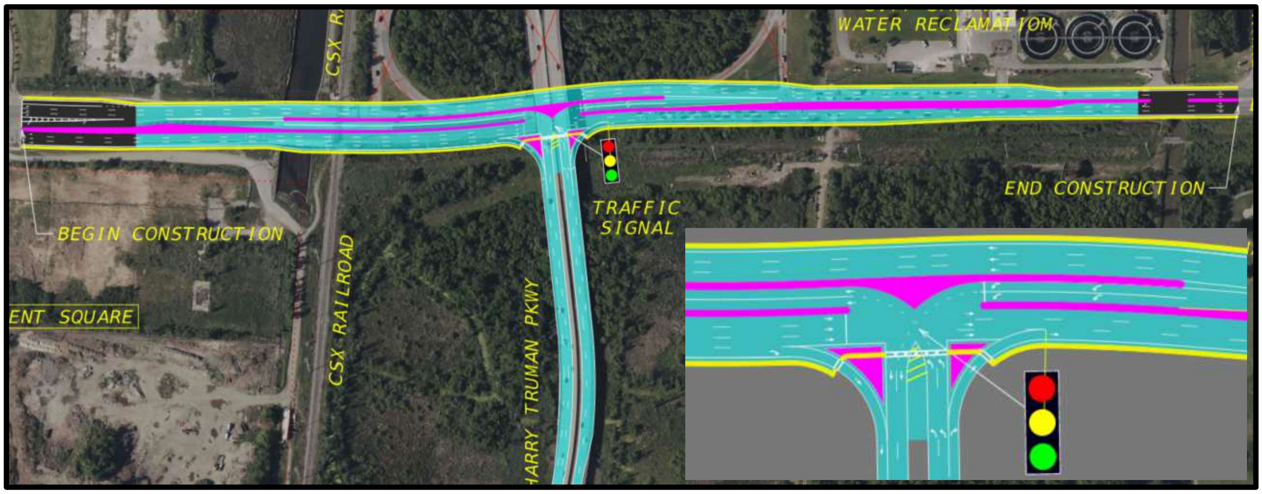
- Providing automatic notification to EMS dispatch when traffic signals are in preemption that includes a timer indicating how long the signals have been in preemption
- Alter signal timing to provide extended westbound green phase as determined by the duration of the preemption for some number of cycles upon release of the preemption hold
- Incorporate advance warning and pre-signals on the Truman Parkway off-ramp that facilitates clearing the loop ramp, and/or a sign actuated by preemption warning of a possible stopped queue ahead. (It would continue to be displayed for some duration after release of preemption, based on the duration of preemption, to allow the queue time to dissipate. This could require additional coordination with the adjacent ramp intersection).

This alternative is intended to a be a short-term improvement and does not meet the ultimate goal of the project; however, it could provide some immediate relief to the AM inbound congestion and could also serve as an initial phase to Alternative 3. This could include the construction of an additional left-turn lane at the existing northbound off-ramp with additional signage and markings to separate northbound approaching traffic on Truman Parkway seeking eastbound E. President Street from traffic going into the city.

Alternative 2 – Elevated Green-T Intersection (westbound)

This alternative would grade separate E. President Street over the railroad to intersect directly with Truman Parkway, replacing the two separate at-grade intersections with the Truman Parkway ramps before returning to grade west of the existing off-ramp. This alternative assumes widening of E. President Street to six lanes with double left-turn lanes for the north and westbound left-turn movements to and from Truman Parkway. Truman Parkway would also require widening on both the northbound approach and southbound departure to accommodate these movements. Both of the existing loop ramps would be removed and be returned to the environment. The intersection would include continuously moving westbound thru lanes, with one signal control for left-turn movements to and from Truman Parkway, forming an elevated Continuous Green-T (CGT) intersection as shown below in Figure 22. This alternative is a slightly modified version of a similar concept previously forwarded for consideration back in 2011.

Figure 22: Alternative 2 – Elevated Green-T Intersection



Benefits & Costs

Analysis for this alternative first considered this as a regular T-intersection in order to determine a baseline condition by combining the turning movement volumes at the two ramps into one signalized intersection. This resulted in poor LOS due to significant delay for both left-turn movements from Truman Parkway conflicting with thru movements on E. President Street. Analysis for the CGT intersection then showed improvement during the AM peak hour as it allowed free-flow movements for westbound E. President Street. However, it still did not provide sufficient LOS for the heavier PM eastbound thru movement while still not improving delay for left-turn movements from Truman Parkway.

The primary benefit from this alternative would be the grade separated crossing of the railroad, combined with a continuous free-flow movement westbound on E. President Street. This would greatly improve morning inbound traffic flow, and movements would be consolidated into one signalized intersection. However, this alternative would require a wider and substantially longer bridge structure on E. President Street than Alternative 3 and would require reconstruction of the Truman Parkway bridge overpass to accommodate the larger elevated intersection footprint. Subsequent widening would also be required on Truman Parkway approaching and departing the intersection. The location of this elevated intersection could conflict with driver expectations because of the abrupt transition from a limited access corridor to a non-limited access corridor. The approximate 1,500-foot distance from the new intersection to E Boundary Street would also introduce design challenges to ensure adequate distance for weaving maneuvers between traffic from northbound Truman Parkway merging with westbound free-flowing traffic on E. President Street in order to change lanes to then turn left or right onto E Boundary Street.

Alternative 3 – Green-T Trumpet Interchange

This alternative would grade separate E. President Street over the canal and railroad beginning just east of E Boundary Street and return to grade prior to the Truman Parkway bridge overpass. The existing Truman Parkway on-ramp would then be reconstructed parallel to and outside of the existing off-ramp, and the two ramps would be combined into one signalized intersection. This alternative also assumes widening of E. President Street to six lanes with double left-turn lanes for the south and eastbound left-turn movements to and from Truman Parkway. The reconstructed on-ramp would have the same typical section and would tie into the existing bridge overpass abutment. The existing west loop ramp would be removed and be returned to the environment. The intersection would include continuously moving eastbound thru lanes, with one signal control for left-turn movements to and from Truman Parkway, forming a Continuous Green-T (CGT) intersection as shown below in Figure 23.

Figure 23: Alternative 3 – Green-T Trumpet Interchange

Benefits & Costs

Building on the fact that traffic congestion was not the limiting issue in choosing an intersection design, and on the results from the CGT intersection in Alternative 2, it was realized that while the projected traffic volumes could be handled in one consolidated intersection, the benefit of the CGT design should work better in the opposite direction for the heavier evening eastbound traffic, and if it was located further away from E Boundary Street to provide more consistent intersection spacing.

As with Alternative 2, the primary benefit from this alternative would be the grade separated crossing of the railroad and consolidation of the two ramp intersections into one signalized intersection. However, this alternative reverses the configuration of Alternative 2 to provide a continuous free-flow movement eastbound on E. President Street to accommodate the heavier evening outbound traffic flow from downtown Savannah. This alternative would reduce overall construction costs by having a significantly shorter and narrower bridge structure, thereby utilizing more of the existing E. President Street footprint. This alternative would also limit reconstruction of the bridge overpass to the relocation of the existing on-ramp without the need for widening Truman Parkway itself. Utilizing the existing, although newly reconfigured intersection with the Truman Parkway off-ramp would not be as much of a conflict with driver expectations as it would still utilize the current on/off-ramp transition from a limited access corridor to a non-limited access corridor. Although this alternative presents a different configuration with its own design challenges, the new intersection would be located approximately 2,100 feet from E Boundary Street to allow 600 feet more distance for weaving maneuvers between traffic exiting Truman Parkway and westbound traffic from E. President Street to access E Boundary Street. These maneuvers would be further helped by the staggering effect of the traffic signal that would provide breaks in traffic flow from E. President Street. As Figure 23 illustrates, an additional benefit to this alternative is that it could be staged in two phases and could also be combined with Alternative 1 as it would not preclude it.

Roadway Alternatives No Longer Considered (Alternatives 4 – 6)

Prior concept ideas for grade separating E. President Street and improving the existing Truman Parkway interchange have been forwarded for consideration by the county in prior years. These have ranged from a 2011 simple concept for an elevated three-way Continuous Green-T (CGT) intersection (see Figure 24) to a 2022 elaborate free-flow interchange with multiple flyovers (see Figure 25), with the prior being eliminated based on inadequately accommodating the anticipated demand and the latter being discounted based on its extreme construction cost, untested design and anticipated environmental impacts.

Between these two extremes was an additional alternative that evaluated maintaining the existing overall footprint but lowering Truman Parkway to grade while elevating E. President Street to bridge over both the railroad and Truman Parkway and reversing the vertical profile of the existing ramps to come up to E. President Street in an elevated Reverse Cloverleaf Interchange. This alternative, shown in sketch format (see Figure 26) was eliminated prior to a concept level analysis based on its constructability while maintaining existing traffic, and its overall design constraints. All three of these concept ideas were helpful in identifying the key travel movements and their associated design impacts to help narrow and sharpen the development of the two long-term Build Alternatives.

Figure 24: Alternative 4 – Elevated CGT Intersection

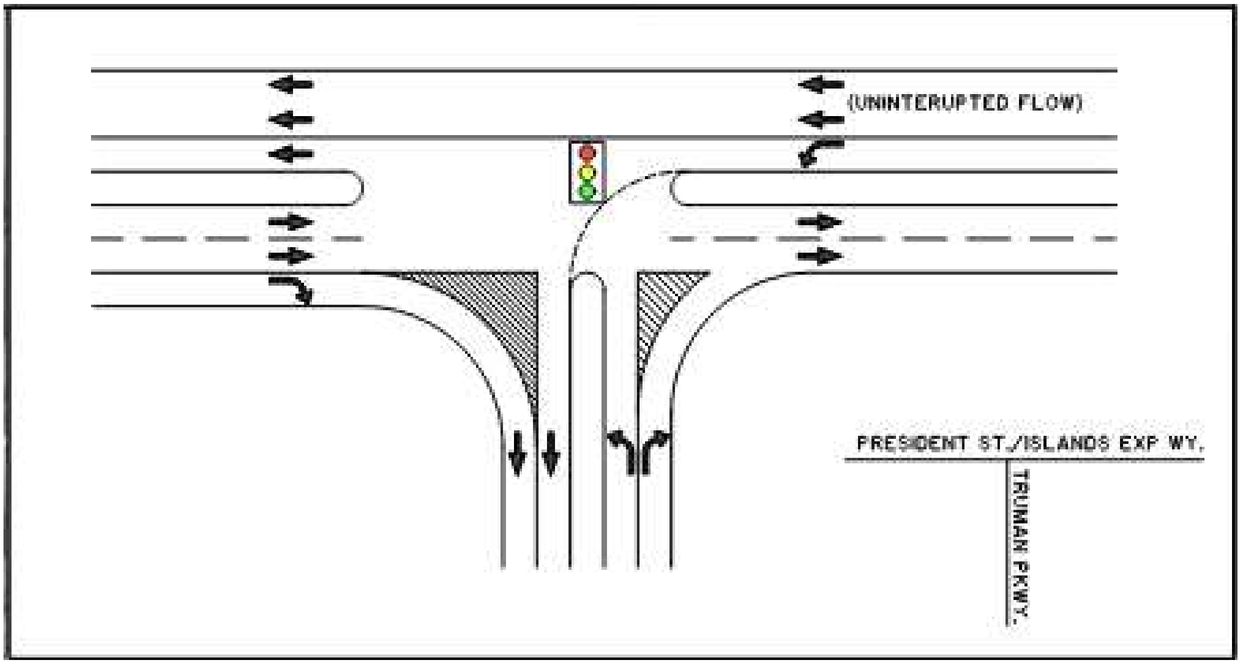
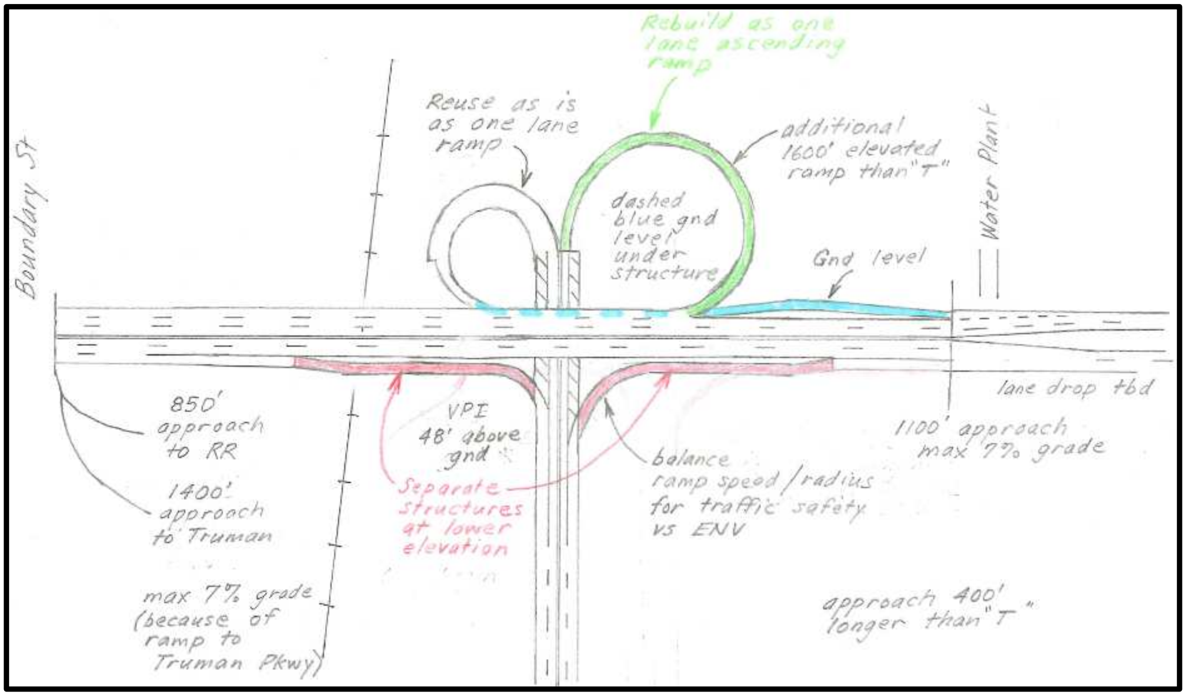


Figure 25: Alternative 6 – Free-flow Flyover Interchange

Figure 26: Alternative 5 – Elevated Reverse Cloverleaf Interchange (sketch)



Railroad Alternatives No Longer Considered

Future railroad conditions proved difficult to project and were not modelled in detail as a part of this project study. The study team requested future railcar projections from Watco but no information is available specific to the SOFR. Changes in railcar volumes over such a long time period is volatile based on a several factors including incremental increases in existing customer traffic and new industrial development. Conversely, railcar increases for one customer could be offset by reduction of railcars for another customer or a customer ending rail service completely. In general, it should be assumed that railcar volumes will increase between present day and the 2050 design year from the traffic study and as a result, vehicle traffic on E. President Street will likely experience increased delay independent of vehicle traffic growth modelling.

Alternative 7 – Railroad Realignment to E. President Street

Alternative 7 proposes to replace the existing E. President Street grade crossing entirely with a new 11,000 track-foot (TF) lead track on the former Central of Georgia alignment parallel to E. President Street as shown in Figure 27. This satisfies the primary objective of eliminating the existing grade crossing while introducing several challenges.

Benefits & Costs

This alignment has the benefit of minimal roadway improvements required at the existing grade crossing, requiring removal of only the track, immediate pavement at the crossing, warning devices (lights, gates, bells, etc.), signage and pavement markings. Although this alignment closes one grade crossing, it re-opens six currently inactive grade crossings at Golf Club Road, Goebel Avenue, Pennsylvania Avenue, Capital Street, E. President Street and one private grade east of the existing crossing. While providing relief to the ramp intersections with Truman Parkway, this alternative effectively moves the current problem further east and introduces the potential for more blocked crossing events, possibly in succession at multiple crossings. Of particular concern would be the new E. President Street grade crossing location due to its skewed angle and close proximity to Seapoint Boulevard. These additional grade crossing locations would also require diagnostic reviews to evaluate required crossing protection which are beyond the scope of this study.

The constructability of this proposed alignment is challenging due to unknown existing horizontal and vertical clearance under Truman Parkway. Topographic survey was not completed as a part of this study and therefore railroad and state minimum clearances could not be confirmed. Although a railroad alignment used to be located here, the existing bridge above the railroad may not have been designed to meet current railroad clearance standards and will require field survey and a detailed horizontal and vertical alignment to confirm. This is a source of risk and may require costly undercutting or bridge modifications if railroad clearance requirements cannot be met.

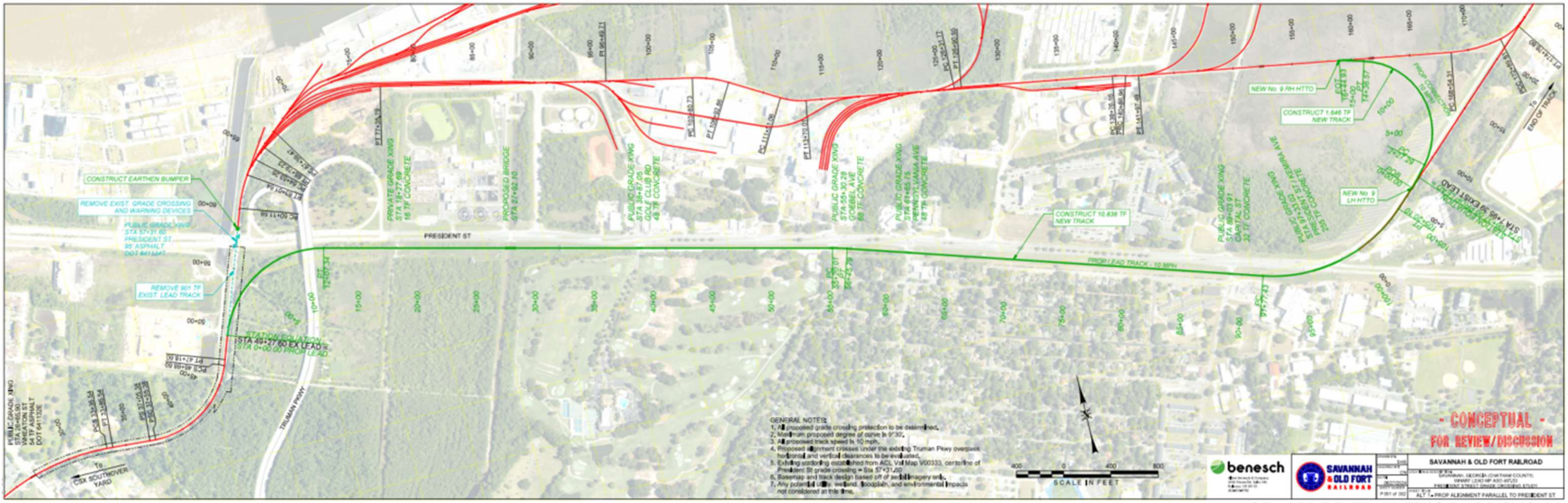
An additional challenge for Alternative 7 is right-of-way acquisition. The majority of the alternative alignment is on Norfolk Southern right-of-way as opposed to the current alignment that Watco owns and operates that is on CSXT right-of-way. Also, right-of-way acquisition would be required for the curve off of the CSXT right-of-way to get to the Norfolk Southern right-of-way. The curve crosses through one parcel that is privately owned.

The Alternative 7 alignment also presents environmental challenges as it involves passing through two parcels in environmentally sensitive locations. The first location is at the curve south of the existing President Street grade crossing as the alignment diverges from the CSXT right-of-way to the Norfolk Southern right-of-way near Truman Parkway. The second location is the connection track curve at the northeast end of the alternative alignment required to allow Watco to directly access their existing yard. Detailed environmental review and permitting research would be needed and was not conducted as a part of this study.

Utility impacts associated with Alternative 7 have been considered at a high level. There is an existing overhead power transmission line running parallel to the majority of alternative alignment south of E. President Street. Details regarding vertical clearance requirements were not evaluated and additional design is required to determine if any structures or poles would need to be relocated. Also, it should be assumed that multiple utilities will be located in the road right-of-way at each new grade crossing. A detailed utility review at each location was not completed as a part of this project study.

Lastly, considerations for emergency access are a challenge. Access at the existing E. President Street grade crossing would be improved but access to the residential community south of E. President Street would be negatively impacted due to the increased number of grade crossings and the potential for multiple grade crossings to be blocked a single time depending on the length of the train.

Figure 27: Alternative 7 - Railroad Realignment to E. President Street



The project team has been in coordination with Watco regarding the feasibility of this alignment from the railroad's perspective. Support from the railroad for a project with any track alignment and operational changes which are critical to establish early on in a project. Alternative 7 significantly increases the amount of track that Watco would need to own and maintain in perpetuity as well as maintenance of any grade crossing protection signals that may be required. From a railroad operational perspective, eliminating the existing President Street grade crossing requires Watco to do the majority of their intermediate switching from the east end of their existing yard north of the Truman Parkway interchange. A short tail track is still needed to the south of the yard for Watco to switch cars for the industry customers directly north of the yard. Elimination of the E. President Street grade crossing greatly reduces the number of cars that Watco can handle per switching move in that direction. With these considerations, Watco indicated they are not in favor of this alternative.

Alternative 8 – Extend Storage Tracks Within Wharf Rail Yard

Alternative 8 proposes to extend two existing Watco yard tracks north of E. President Street and the Turman Parkway interchange as shown in Figure 28. This proposed track extension does not completely eliminate the existing grade crossing, roadway network delay, and traffic congestion associated with train traffic at the E. President Street grade crossing but does propose to reduce it through railroad operational changes.

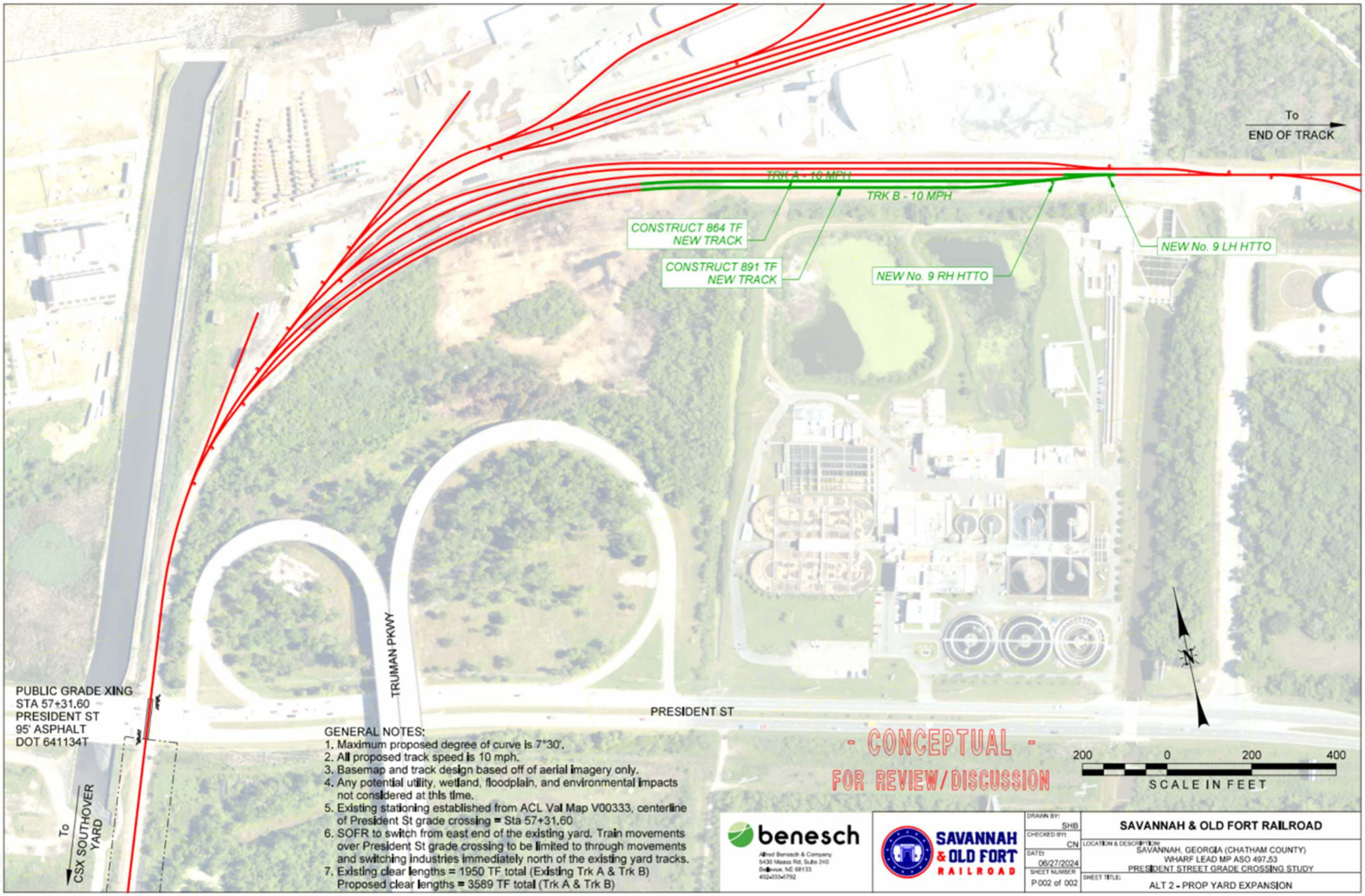
Benefits & Costs

Instead of Watco switching cars to the south across E. President Street, extending and adding connections on the east end of the yard would allow Watco to perform more switching from the east end of the yard and reducing the frequency of crossing blockages at E. President Street by train traffic. Watco would still block the crossing when trains are moving cars to and from the yard to interchange with CSX. Also, crossing blockages would occur when Watco switches customer cars immediately north of the existing yard. The full extent to which this alternative would reduce the number of blocked crossing events is unknown.

The project team has been in coordination with Watco regarding the feasibility of this alignment from the railroad's perspective. Support from the railroad for a project with any track alignment and operational changes which are critical to establish early on in a project. Alternative 8 proposes to significantly change their existing operations and Watco has indicated they do not favor this alternative.

An additional challenge for Alternative 8 is an on-going development immediately east and south of the existing end of the yard tracks to be extended. This parcel is owned by Savannah Bulk Terminal LLC so property acquisition would be needed which will prove to be challenging with development already in progress.

Figure 28: Alternative 8: Extend Storage Tracks Within Wharf Rail Yard



Alternative 9 – New Classification Yard South of President Street

Alternative 9 proposes to construct a new three track classification yard south of E. President Street as shown in Figure 29. The new yard provides supplemental capacity to the existing Watco yard north of E. President Street and gives the railroad more operational flexibility.

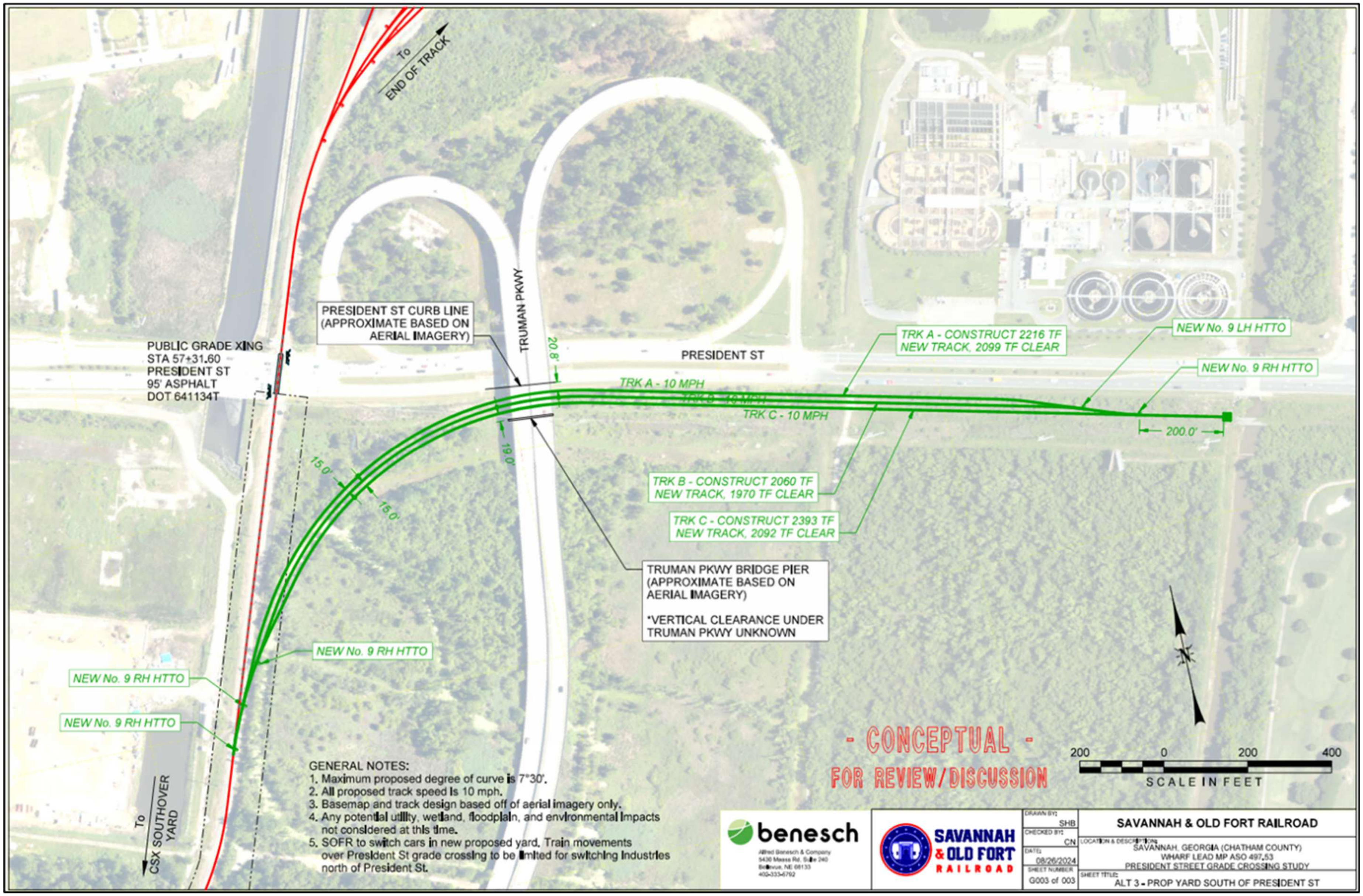
Benefits & Costs

Similar to Alternative 8, this does not eliminate the existing grade crossing, roadway network delay, and traffic congestion associated with train traffic at the E. President Street grade crossing but does propose to reduce it through railroad operational changes. The proposed yard would allow Watco to stage and sort customer cars without impacting traffic at E. President Street. President Street would only be blocked when customer cars are being switched and when cars are being handled in and around the existing yard.

The project team has been in coordination with Watco regarding the feasibility of this alignment from the railroad's perspective. Support from the railroad for a project with any track alignment and operational changes which are critical to establish early on in a project. Alternative 9 proposes to significantly change their existing operations and, unlike Alternative 7 and Alternative 8, Watco has indicated this alternative does have merit subject to additional design iteration and review. The initial favorable response from the railroad should not be taken as an approval. More coordination would be required to develop this alternative into a feasible project.

Several challenges from Alternative 7 are also applicable to Alternative 9. Three tracks are proposed to cross under the existing Truman Parkway overpass which uses the majority of available space between the existing bridge pier and President Street curb line. Meeting railroad and state horizontal and vertical clearances would be critical to this alternative. The same challenges associated with Alternative 7 with respect to right-of-way acquisition, environmental impacts, and utility impacts are all applicable to Alternative 9. Emergency access would be a net improvement associated with this alternative as blockages at E. President Street would be reduced.

Figure 29: Alternative 9: Construct New Rail Yard South of E. President Street



3.4 Future Alternative Traffic Analysis

A capacity analysis was performed for each of the two long-term improvement Build Alternatives[8] forwarded for consideration using the projected future traffic volumes to compare against the No-Build condition. Likewise, this analysis relied on using Synchro for individual intersection LOS and VISSIM for determining overall network delay. The future peak-hour traffic volumes for both the 2030 Opening and 2050 Design Years for each Build alternative shown in Figure 30 - Figure 33.

While only two existing intersections with Truman Parkway (intersections 3 & 4) experienced traffic volumes changes, there were still subtle shifts in performance at the other three intersections of General McIntosh Boulevard, E Boundary Street and Pennsylvania Avenue. A summary of the results are shown below in Table 9.

Table 9: Synchro Intersection LOS Results

No-Build	*2030*									*2050*						
	AM			*Noon*			*PM*			*AM*			*Noon*		*PM*	
	CL	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*
1. E President @ General McIntosh Blvd	*85*	19	B	*83*	20	B	*85*	24	C	*176*	29	C	24	C	48	D
2. E President @ E Boundary St	*170*	7	A	*166*	40	D	*170*	88	F	*176*	29	C	18	B	114	F
3. E President @ Truman Pkwy On-Ramp	*170*	4	A	*83*	3	A	*170*	31	C	*176*	35	C	7	A	76	E
4. E President @ Truman Pkwy Off-Ramp	*170*	14	B	*83*	7	A	*170*	53	D	*176*	23	C	13	B	72	E
5. E President @ Pennsylvania Ave	*170*	23	C	*166*	23	C	*170*	70	E	*176*	43	D	28	C	189	F
Alternative 2, Elevated Green-T Intersection	*2030*									*2050*						
	AM			*Noon*			*PM*			*AM*			*Noon*		*PM*	
	CL	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*
1. E President @ General McIntosh Blvd	*85*	20.0	C	*85*	21.1	C	*85*	27.7	C	*170*	32.2	C	13.5	B	45.0	D
2. E President @ E Boundary St	*170*	13.7	B	*170*	28.8	C	*170*	96.0	F	*170*	22.9	C	27.7	C	144.4	F
*3/4. E President @ Elevated Truman Pkwy**	*85*	15.2	B	*85*	11.0	B	*85*	21.2	C	*85*	14.1	B	12.9	B	36.3	D
5. E President @ Pennsylvania Ave	*170*	19.4	B	*170*	23.4	C	*170*	36.2	D	*170*	25.5	C	26.0	C	94.8	F
Alternative 3, Green-T Trumpet Interchange	*2030*									*2050*						
	AM			*Noon*			*PM*			*AM*			*Noon*		*PM*	
	CL	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*CL*	*Delay*	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*
1. E President @ General McIntosh Blvd	*85*	22.4	C	*83*	20.7	C	*85*	23.5	C	*170*	28.7	C	25.2	C	45.0	D
2. E President @ E Boundary St	*170*	28.7	C	*166*	41.5	D	*170*	91.0	F	*170*	39.0	D	38.2	D	156.5	F
*4. E President @ Truman Pkwy On/Off**	*85*	20.9	C	*83*	10.9	B	*85*	17.3	B	*170*	41.1	D	17.7	B	32.6	C
5. E President @ Pennsylvania Ave	*170*	19.4	B	*166*	21.6	C	*170*	49.2	D	*170*	25.2	C	25.5	C	96.3	F

LOS D conditions (Delay >35-55, approaching unstable flow)
LOS E conditions (Delay >55-80, unstable flow - intolerable delay)
LOS F conditions (Delay >80, forced flow - jammed)
Results shown are from HCM 6th Edition, using the Synchro software
* HCM 2000 Results shown (HCM 6th Edition not available for green T intersection)

[8] Alternative 1 was not included in this analysis as it is intended only for the short term and evaluated using 2030 volumes.

Figure 30: 2030 Opening Year Peak Hour Volumes (Alternative 2)

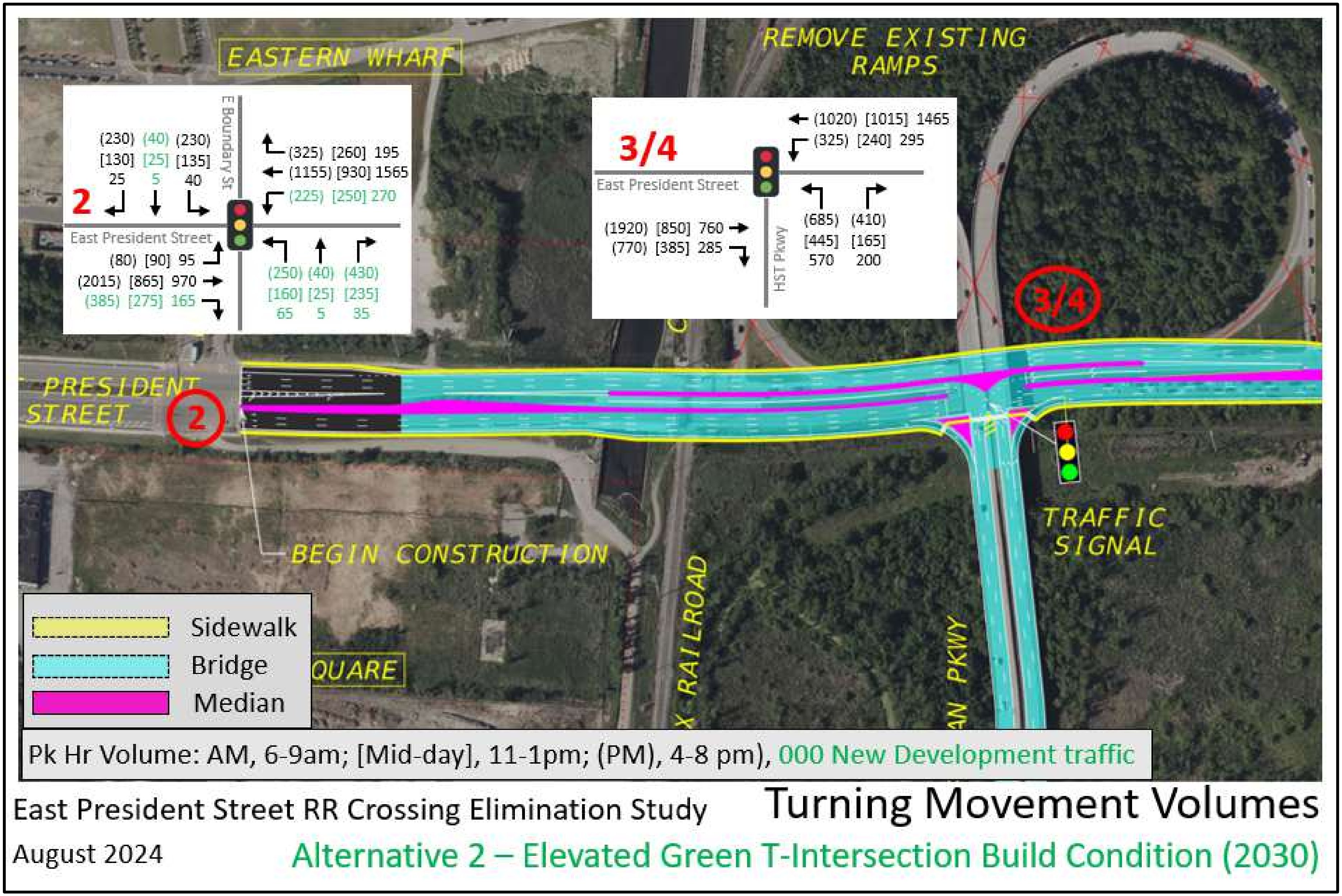


Figure 31: 2050 Design Year Peak Hour Volumes (Alternative 2)

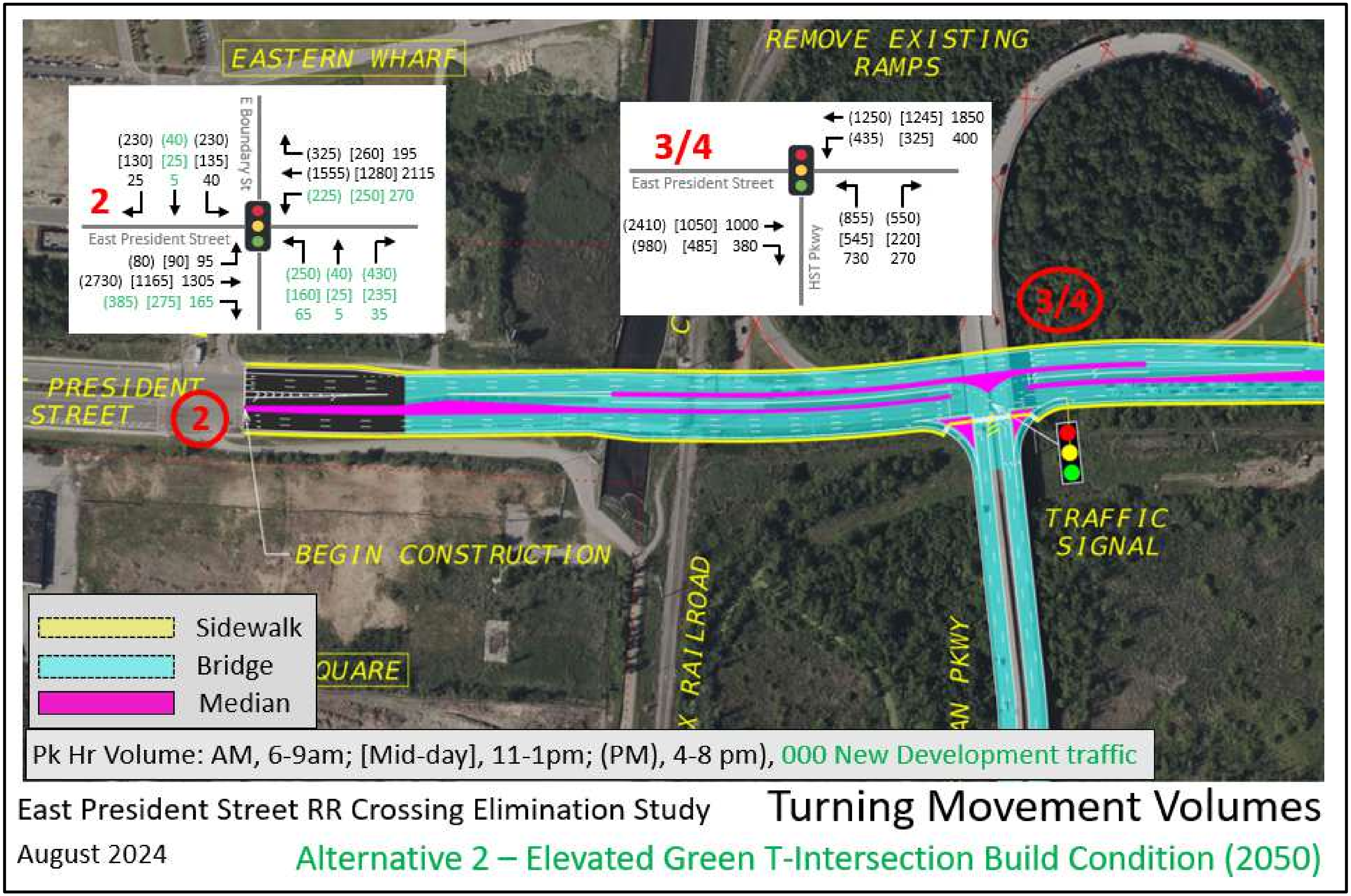


Figure 32: 2030 Opening Year Peak Hour Volumes (Alternative 3)

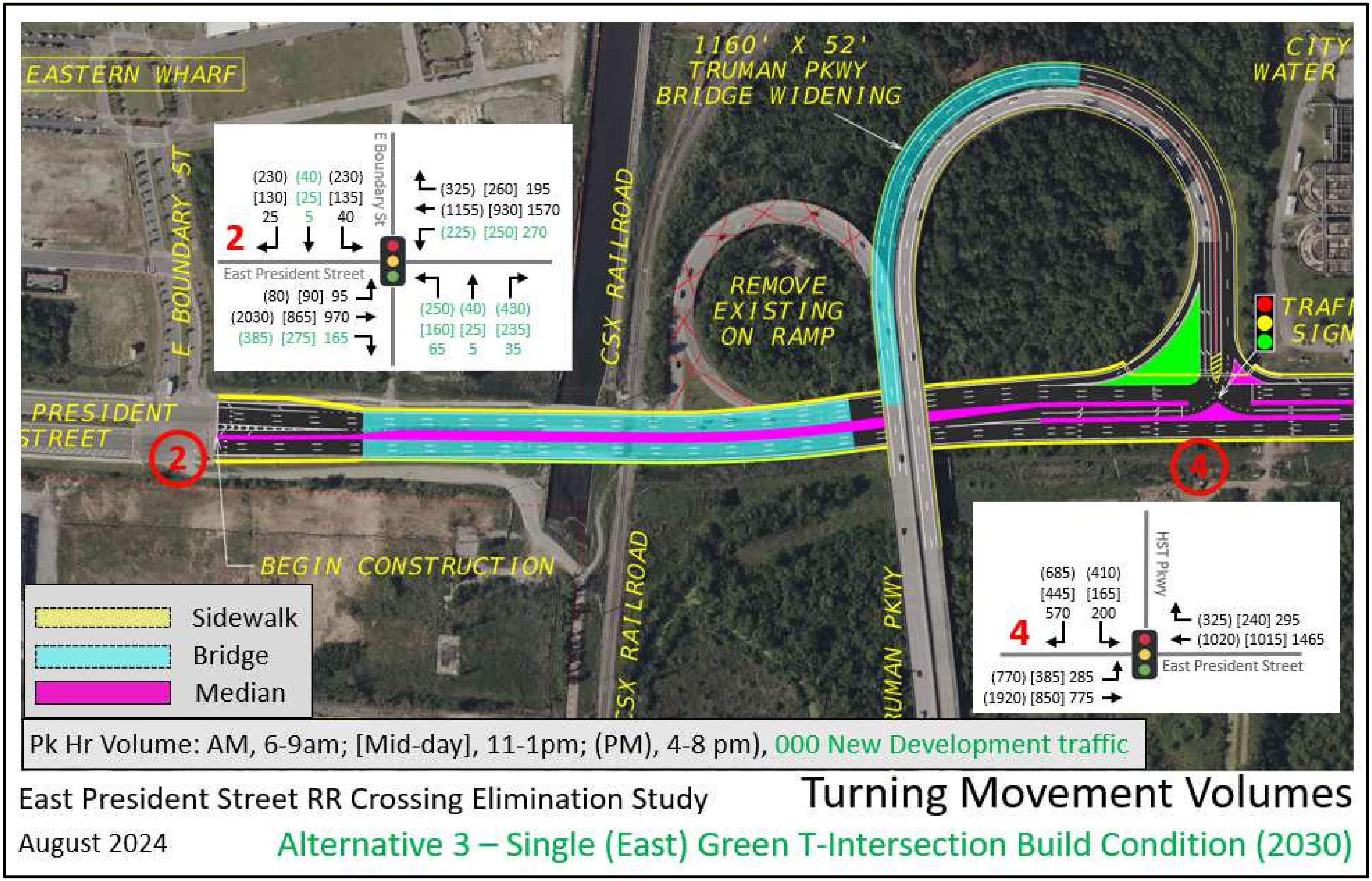
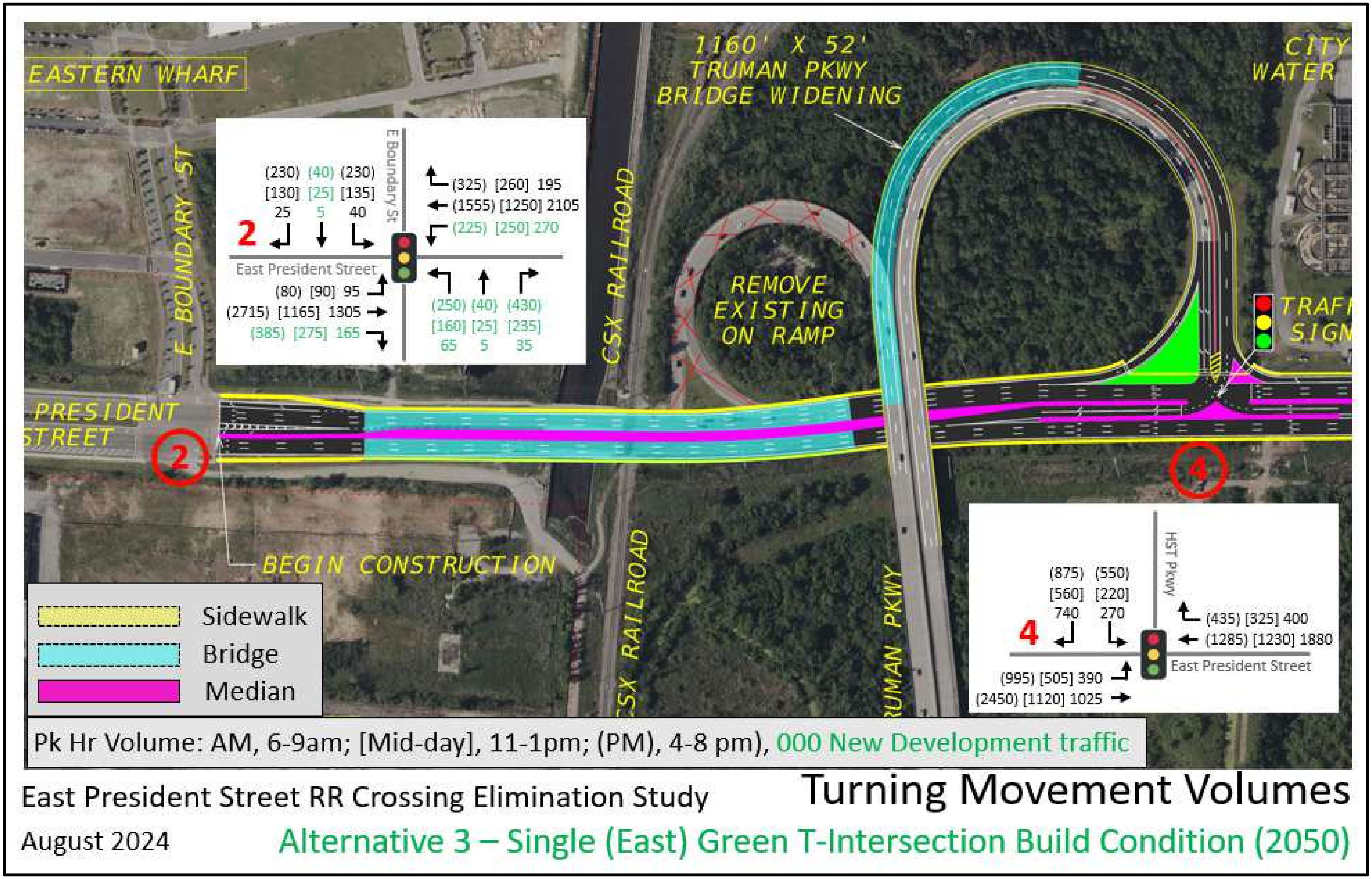


Figure 33: 2050 Design Year Peak Hour Volumes (Alternative 3)

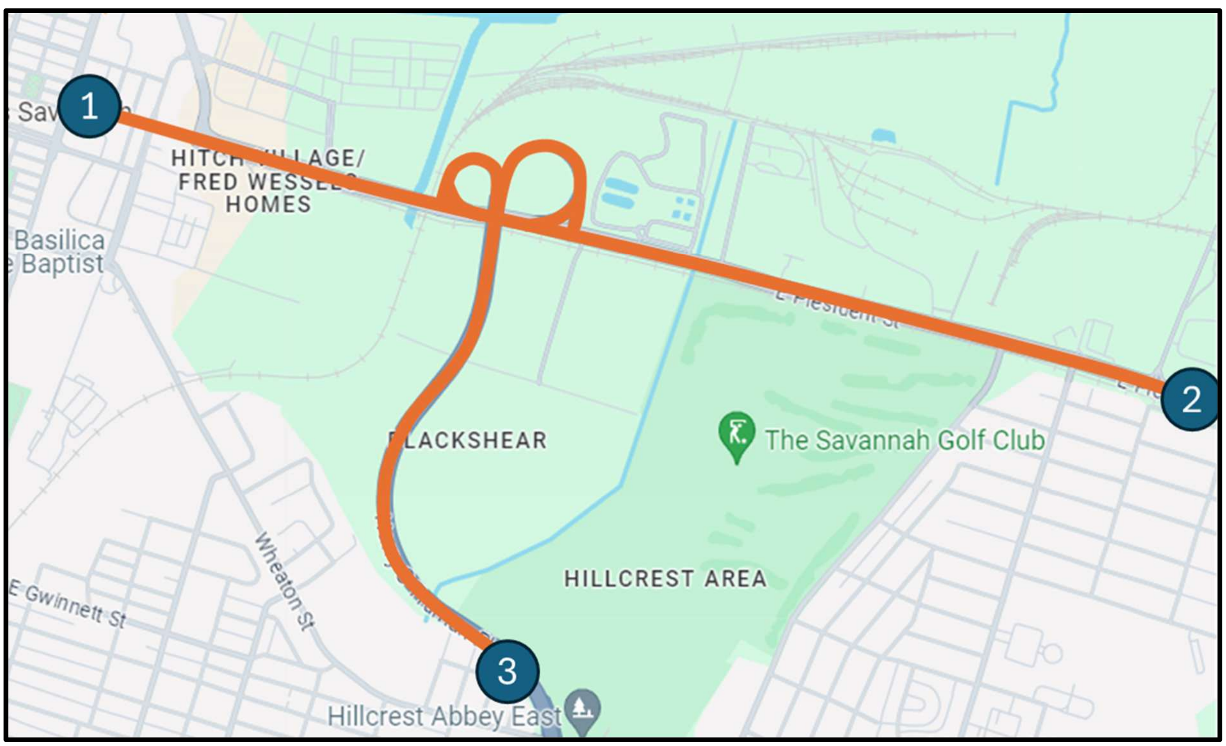


The results of the Synchro analysis indicates that under the future No-Build condition, conditions will deteriorate to the point where almost all intersections will have a failing LOS, primarily due to the anticipated growth and trip generation from new development. It is also apparent that there is limited improvement in LOS under each of the two Build alternatives; however, as stated earlier the Synchro results are static and do not provide a full picture of the conditions in the network as a whole. More importantly, they don't include nor account for the compounding effect of blocked crossing events, and the comprehensive improvement provided by the grade separation. These results do indicate that independent of the proposed grade separation, the existing corridor will not adequately accommodate the future traffic demand.

However, an analysis of the delay using VISSIM provided very dramatic differences in the delay experienced by drivers as they travel through the corridor. Figure 34 below shows a comparison of the delay currently being experienced by drivers with the grade crossing to the future No-Build and Build conditions. In all cases the percent future decrease in delay for each alternative over the No-Build condition is significantly lower, and in some cases is lower than current conditions.

Figure 34: Average Delay per Vehicle (sec/veh)

	2024 Existing			2050 Future No-Build			2050 Build - Alternative 2			2050 Build - Alternative 3		
Travel Path	AM	Noon	PM	AM	Noon	PM	AM	Noon	PM	AM	Noon	PM
1: Gate 1 to 2	40	44	71	196	82	593	57	42	183	19	16	110
2: Gate 2 to 1	52	54	74	423	171	1055	52	30	104	53	39	66
3: Gate 1 to 3	67	60	55	300	77	627	20	16	157	100	40	170
4: Gate 3 to 1	50	49	91	300	128	1535	115	62	197	37	17	52
5: Gate 2 to 3	33	42	103	367	167	880	47	44	119	17	257	20
6: Gate 3 to 2	72	57	60	167	68	756	36	37	85	48	30	64
						Percent decrease over No-Build	*-81.4%*	*-66.7%*	*-84.5%*	*-84.4%*	*-42.3%*	*-91.2%*



3.5 Benefit-Cost Analysis

Analysis Components

The benefit to cost (B/C) ratio for the proposed project was estimated based on the Georgia Department of Transportation's (GDOT) latest B/C methodology, which was developed as part of their project prioritization program. Benefits are calculated by assigning monetary values to the reduction in automobile delay and truck delay and by accounting for fuel cost savings. Figure 35 shows the equations used in the GDOT process for estimating auto and truck delay savings, design year and design life benefits, and the final benefit-cost ratio to determine the overall project effectiveness.

Figure 35: GDOT Cost-Benefit Equations

GDOT Benefit-Cost Equations

1. Delay Calculation

$$D = (V_{Served} \times D_{Served}) + (V_{Denied} \times D_{Denied})$$

where

D	network delay
V_{Served}	volume in or exited network
D_{Served}	delay within the network
V_{Denied}	number of vehicles denied entry
D_{Denied}	delay for vehicles outside network

2. Auto Delay Savings

$$DC_A = (D_{NB} - D_B) \times (1 - T) \times Value_A$$

where

DC_A	auto delay cost savings
D_{NB}	network delay in design year - no build
D_B	network delay in design year - build
T	percent of traffic consisting of trucks
$Value_A$	value of time for autos

3. Truck Delay Savings

$$DC_T = (D_{NB} - D_B) \times T \times Value_T$$

where

DC_T	truck delay cost savings
D_{NB}	network delay in design year - no build
D_B	network delay in design year - build
T	percent of traffic consisting of trucks
$Value_T$	Value of time for trucks

4. Design Year Benefits

$$Benefits_D = DC_A + DC_T$$

where

$Benefits_D$	design year benefits
DC_A	auto delay cost savings
DC_T	truck delay cost savings

5. Design Life Benefits

$$Design\ Life\ Benefits = Benefits_D \times DL$$

where

DC_A	auto delay cost savings
DL	design life

6. Benefit-Cost Ratio

$$B/C = \frac{Design\ Life\ Benefits}{Cost}$$

Table 10 below contains the necessary input parameters and their values used in the cost-benefit calculations shown above.

Table 10: Cost-Benefit Parameters and Values

General Parameters	***Value***
Discount Rate	7%
Fuel Price ($/gallon)	2.40
Fuel Economy (miles per gallon)	18.03
Value of automobile travel ($/hour)	13.75
Value of truck travel ($/hour)	72.65
Parameters specific to this project	
Percent trucks	9%
No. of working days in a year	250
Hours of AM Peak	2.5
Hours of Noon Peak	1.5
Hours of PM Peak	3.25
Operational Design Life (years)	20

The estimated project costs for each alternative were also included for preliminary engineering, right-of-way, utility, and construction costs in year 2024 dollars and are provided below in Table 11.

Table 11: Estimated Costs

Costs	***Estimate***	
	Alternative 2	***Alternative 3***
Preliminary Engineering	$ 8,000,000	$ 6,250,000
Right of Way	$ 15,000,000	$ 12,000,000
Utility	$ 9,000,000	$ 5,000,000
Construction	$ 93,000,000	$ 56,000,000
Total	**$ 125,000,000**	**$ 79,250,000**

The benefit-cost ratio calculation process involves monetizing the delay savings determined from the VISSIM model and comparing them between the No-Build and Build scenarios using the equations in Figure 35 with the above parameter values as follows:

1. Delay Calculation – Network delay is calculated by multiplying the number of vehicles served by the delay per vehicle (sec)[9]. Separate delay calculations were made for the a.m., noon, and p.m. peak periods being analyzed.

[9] For the purpose of this study, no vehicles were denied into the network; therefore this variable was not used in the calculations.

2. Auto Delay Savings – Prior to calculating the auto delay cost savings, the auto delay cost is calculated by multiplying the number of hours for each peak period (a.m., noon, and p.m.) times the total delay calculation in step 1 for that time period. Then the auto delay savings is calculated by subtracting the network delay calculation from step 1 for the build condition from the no-build condition, then multiplying that value by percentage of non-trucks, then multiplying that value by default parameter for autos.

3. Truck Delay Savings – The same calculation as above, but then multiplied by the percent trucks and truck travel input parameter.

4. Design Year Benefits – The sum of the results from steps 2 and 3 for the design year.

5. Design Year Life Benefits – The Design Year Benefit multiplied by the design life.

6. Benefit-Cost Ratio – The total Design Life Benefits divided by the estimated cost of each concept alternative.

Table 12 shows a comparison of the total 2050 benefit-cost ratio over the design life for each alternative.

Table 12: Benefit-Cost Ratio

Alternatives	*Estimated Cost*	*Total Benefits*	*Design Life Benefits*	*Design Life B/C Ratio*
Alternative 2	$ 125,000,000	$ 122,302,176	$ 1,223,021,763	9.78
Alternative 3	$ 79,250,000	$ 132,719,558	$ 1,327,195,578	16.75

The results of the analysis indicate that Alternative 3 has the highest design life B/C ratio based on the delay savings vs. the estimated project cost. Details of the B/C ratio analysis can be found in Attachment E.

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4.0 Public Involvement

The at-grate rail crossing at President Street is a high-profile project due to the delays frequently experienced by commuters and others who use the corridor on a regular basis. President Street is also an important corridor to the industries east of downtown, as is efficient rail service. The community engagement for the study included multiple strategies to involve the diverse stakeholders in the community.

- **Stakeholder Advisory Team (SAT)**: This group was established to provide input and feedback regarding the development of the President Street Railroad Crossing Elimination Study. This group also serves as ambassadors for the project by sharing information with their constituent groups and encouraging members of the community to participate in the planning process. Organizations represented on the SAT include Chatham County, City of Savannah, CORE MPO, Georgia DOT, FHWA, Chatham Area Transit, Savannah Economic Development Authority, emergency services providers, nonprofit organizations, and WATCO.

  Meetings with the SAT were held on May 17, 2024, and November 5, 2024. A final meeting with the SAT will be held in early 2025.

- **East Savannah Industrial Coalition**: This is an existing group of business and industry representatives located in and around the Seapoint Industrial Complex. A virtual meeting was provided to this group on August 20, 2024, to share information and seek input from the major industrial businesses located on East President Street. The presentation included an overview of the project, summary of existing conditions, and alternatives under consideration. Following the meeting, the Coalition provided a letter of conditional support for Alternative 3 - Bridge with Truman Parkway Green-T Trumpet Interchange, with a request for including an off ramp from Truman Parkway northbound to President Street eastbound.

Online Engagement

A project website was established early in the project, hosted by Chatham County. The CORE MPO also provided a link to the project website. The website includes project documents, meeting notices, and links to sign up for email updates and participate in online surveys. The website is updated throughout the project. As of December 2024, over 150 individuals have signed up for email updates.

Community Meetings

Three (3) community meetings were held during the middle of the study process to share the potential alternatives for consideration. Each was similar in scope and format but hosted in separate locations to maximize opportunities for feedback. The meetings were held as follows:

- Tuesday, September 17, 2024 – Frank Murray Community Center, 4:30 p.m. – 6:30 p.m.
- Wednesday, September 18, 2024 – Metropolitan Planning Commission, 4:30 p.m. – 6:30 p.m.
- Wednesday, October 30, 2024 – Andrea B. Williams Elementary School, 4:30 p.m. – 6:30 p.m.

Between the three meetings, approximately 87 people attended. The meetings were open house format, and attendees were asked to complete a comment card to share feedback on the alternatives under consideration.

Information about the alternatives was also posted to the project website along with an online survey which mirrored the comment card available during the community meetings. Five hundred fifteen (515) people responded via comment cards and the online survey. Key findings from the received comments are listed below. The full summary of Public Involvement and Stakeholder Meetings, including the most recent February 12, 2025 Public Information Open House (PIOH) and all comments from those meetings and the online survey is provided in Attachment F.

- Over 80% of respondents travel the corridor very frequently (5 days/week) or frequently (1 to 4 days/week)
- Almost half of respondents (49.2%) report frequent delays (1 to 4 days/week)
- Over three-quarter of respondents (76.4%) choose or sometimes choose alternative routes to avoid the area.
- The average perceived wait time for a blocked crossing is 18.75 minutes.
- The majority of respondents felt that pedestrian, bike, and transit facilities are important. Most respondents (55.3%) prefer a multi-use shared path.
- The short-term improvements are supported by just over a third (35.2%) of the respondents. Reasons cited for the lack of support of the short-term improvements include:
  - preference for the funds to go straight to the long-term improvements
  - uncertainty of how effective the short-term improvements would be
  - the at-grade crossing still remains in place
- When asked which alternative respondents prefer, alternative 3 is slightly preferred, although over 20 percent of respondents remain undecided:
  - Alternative 2 – Bridge with Truman Parkway Elevated Green-T Intersection: 35.1%
  - Alterative 3 – Bridge with Truman Parkway Green-T Trumpet Interchange: 42.5%
  - Undecided: 22.4%

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5.0 Conclusions and Recommendations

Preferred Alternative

After six of the original nine alternatives were eliminated, the remaining three were categorized into a short-term interim alternative and two long-term alternatives. Although the traffic and delay analysis of the two long-term options produced similar results, the Benefit-Cost analysis which included anticipated construction costs, along with feedback from the local community and stakeholders identified Alternative 3 – Green-T Trumpet Interchange (Figure 23) as the preferred choice for eliminating the E. President Street grade crossing.

Phased Implementation & Construction Plan

Once project funding and programming are secured, construction of the preferred alternative is expected to proceed in two main stages. The first stage would involve reconstructing the Truman Parkway on-ramp and the intersection of the existing off-ramp with E. President Street. The second stage would then construct the E. President Street bridge grade separation. Both stages are anticipated to be completed while maintaining existing traffic flow through lane closures, avoiding the need for off-site detours. Additionally, this preferred long-term alternative would not prevent the implementation of the short-term alternative, as it incorporates portions of the latter into its design.

Potential Funding Sources

As of the time of this report, the following funding sources were available. Due to changes in administration, funding sources are subject to change and may need to be reevaluated.

Federal Funding Options

The Federal Bipartisan Infrastructure Law established two new programs and reauthorized one preexisting program. The Mega Grants are funding for the National Infrastructure Project Assistance grants program. The INFRA Grants are to be made available for the Nationally Significant Multimodal Freight and Highways Projects grants program. The Rural Grants Program are grants for the Rural Surface Transportation projects. More details are found below.

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Eligible Applicants

MEGA	INFRA	Rural
1. a State or a group of States; 2. a metropolitan planning organization; 3. a unit of local government; 4. a political subdivision of a State; 5. a special purpose district or public authority with a transportation function, including a port authority; 6. a Tribal government or a consortium of Tribal governments; 7. a partnership between Amtrak and 1 or more entities described in (1) through (6); or, 8. a group of entities described in any of (1) through (7).	1. State or group of States; 2. a metropolitan planning organization that serves an Urbanized Area (as defined by the Bureau of the Census) with a population of more than 200,000 individuals; 3. a unit of local government or group of local governments; 4. a political subdivision of a State or local government; 5. a special purpose district or public authority with a transportation function, including a port authority; 6. a Federal land management agency that applies jointly with a State or group of States; 7. a tribal government or a consortium of tribal governments; 8. a multistate corridor organization; 9. a multistate or multijurisdictional group of entities described in this paragraph	1. a State; 2. a regional transportation planning organization; 3. a unit of local government; 4. a tribal government or a consortium of tribal governments; or 5. a multijurisdictional group of entities above

Eligible Projects

MEGA	INFRA	Rural
1. A highway or bridge project on the National Multimodal Freight Network 2. A highway or bridge project on the National Highway Freight Network 3. A highway or bridge project on the National Highway System 4 . A freight intermodal (including public ports) or freight rail project that provides public benefit 5. A railway highway grade separation or elimination project 6. An intercity passenger rail project 7. A public transportation project that is eligible under assistance under Chapter 53 of title 49 and is a part of any of the project types described above	1. A highway freight project on the National Highway Freight Network 2. A highway or bridge project on the National Highway System 3. A freight intermodal, freight rail, or freight project within the boundaries of a public or private freight rail, water (including ports), or intermodal facility and that is a surface transportation infrastructure project necessary to facilitate direct intermodal interchange, transfer, or access into or out of the facility 4. A highway-railway grade crossing or grade separation project 5. A wildlife crossing project 6. A surface transportation project within the boundaries or functionally connected to an international border crossing that improves a facility owned by Fed/State/local government and increases throughput efficiency 7. A project for a marine highway corridor that is functionally connected to the NHFN and is likely to reduce road mobile source emissions 8. A highway, bridge, or freight project on the National Multimodal Freight Network	1. A highway, bridge, or tunnel project eligible under National Highway Performance Program 2. A highway, bridge, or tunnel project eligible under Surface Transportation Block Grant 3. A highway, bridge, or tunnel project eligible under Tribal Transportation Program 4. A highway freight project eligible under National Highway Freight Program 5. A highway safety improvement project, including a project to improve a high-risk rural road as defined by the Highway Safety Improvement Program 6. A project on a publicly owned highway or bridge that provides or increases access to an agricultural, commercial, energy, or intermodal facility that supports the economy of a rural area 7. A project to develop, establish, or maintain an integrated mobility management system, a transportation demand management system, or on-demand mobility services

Eligible Project Costs

Eligible Project Costs may include the following: Development phase activities, including planning, feasibility analysis, revenue forecasting, environmental review, preliminary engineering and design work, and other preconstruction activities; as well as construction, reconstruction, rehabilitation, acquisition of real property (including land related to the project and improvements to the land), environmental mitigation, construction contingencies, acquisition of equipment, and operational improvements.

RAISE Program

The U.S. Department of Transportation (USDOT) Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program provides grants for surface transportation infrastructure projects with significant local or regional impact. The eligibility requirements of RAISE allow project sponsors, including state and local governments, counties, Tribal governments, transit agencies, and port authorities, to pursue multi-modal and multi-jurisdictional projects that are more difficult to fund through other grant programs.

The RAISE program, previously known as the Better Utilizing Investments, to Leverage Development (BUILD) and Transportation Investment Generating Economic Recovery (TIGER) discretionary grants, was established under the American Recovery and Reinvestment Act of 2009 and operated under annual appropriations acts until authorized by the Bipartisan Infrastructure Law (BIL) in November 2021.

Eligible applicants for RAISE grants are:

- States and the District of Columbia
- Any territory or possession of the United States
- A unit of local government
- A public agency or publicly chartered authority established by one or more States
- A special purpose district or public authority with a transportation function, including a port authority
- A Federally recognized Indian Tribe or a consortium of such Indian Tribes
- A transit agency
- A multi-State or multijurisdictional group of entities that are separately eligible

Ineligible applicants for RAISE grants are:

- Federal agencies
- Non-profits
- Private entities

Multiple states or jurisdictions may submit a joint application, designating a lead applicant as the primary contact and award recipient. The application should outline each applicant's roles and responsibilities. USDOT expects the applicant to manage and deliver the project. If the applicant plans to transfer the award to another agency, this should be stated in the application, along with a supporting letter from the designated entity. There are other routine Federal Funding opportunities that can be programmed though the Coastal Region MPO (CORE) planning process. Potential options are as follows:

CMAQ

The Federal share for CMAQ funds is governed by 23 U.S.C. 120. It is generally 80 percent, subject to the upward sliding scale adjustment for States containing public lands. Certain safety projects that include an air quality or congestion relief component, e.g. carpool/vanpool projects, as provided in 23 USC 120(c) may have a Federal share of 100 percent, but this provision is limited to 10 percent of the total funds apportioned to a State under 23 U.S.C. 104.

All CMAQ projects must demonstrate the three primary elements of eligibility: transportation identity, emissions reduction, and location in or benefitting a nonattainment or maintenance area. While project eligibilities are continued, there is some modification with new language placing considerable emphasis on select project types including electric and natural gas vehicle infrastructure and diesel retrofits. As in past authorizations of the program, projects must be included in a Metropolitan Planning Organization (MPO) transportation plan and transportation improvement program (TIP), or the current Statewide TIP in areas that are not part of an MPO. The MPO plans and programs must also have a transportation conformity determination in place, where applicable. In addition, CMAQ investments must comply with the appropriate Federal cost principles, such as 2 CFR 225, the guidelines for State, local, and tribal governments

Highway Safety Improvement Program

As part of the HSIP, $245 million is set aside each fiscal year for the Railway-Highway Crossings Program (23 USC 130). These funds provide for the elimination of hazards and the installation of protective devices at public railway-highway crossings. Additional information on the Railway-Highway Crossing Program (also referred to as the Highway-Railroad Grade Crossings Program and as the Rail-Highway Crossings Program) can be found at Railway Highway Crossing Program Overview | FHWA (dot.gov).

National Highway Freight Program (NHFP)

The National Highway Freight Program (NHFP) to improve the efficient movement of freight on the National Highway Freight Network (NHFN) and support several goals, including—

- investing in infrastructure and operational improvements that strengthen economic competitiveness, reduce congestion, reduce the cost of freight transportation, improve reliability, and increase productivity;
- improving the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas;
- improving the state of good repair of the NHFN;
- using innovation and advanced technology to improve NHFN safety, efficiency, and reliability;
- improving the efficiency and productivity of the NHFN;
- improving State flexibility to support multi-State corridor planning and address highway freight connectivity; and
- reducing the environmental impacts of freight movement on the NHFN. [23 U.S.C. 167(a) and (b)]

National Highway performance Program (NHPP)

The National Highway Performance Program (NHPP). The purposes of this program are: to provide support for the condition and performance of the National Highway System (NHS); to provide support for the construction of new facilities on the NHS; to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS; and to provide support for activities to increase the resiliency of the NHS to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters.

Railway-Highway Crossing Hazard Elimination Program

This program provides funding for highway-rail or pathway-rail grade crossing improvement projects that focus on improving the safety and mobility of people and goods. See the FY 2023-2024 RCE NOFO for more information.

- To view presentation materials from the July 25, 2024, webinar, visit FRA's Webinars web page, Grants & Loans drop-down.

Legislative Authority: This program was authorized in Section 22305 of the Bipartisan Infrastructure Law. 49 U.S.C. § 22909. Funding made available by the FY 2023 and 2024 advance appropriations provided in Title VIII of Division J of the Bipartisan Infrastructure Law and by remaining unawarded FY 2022 RCE Program balances.

Eligible Projects:

- Grade separation or closure, including through the use of a bridge, embankment, tunnel, or combination thereof;
- Track relocation;
- Improvement or installation of protective devices, signals, signs, or other;
- Measures to improve safety related to a separation, closure, or track relocation project;
- Other means to improve the safety if related to the mobility of people and goods at highway-rail grade crossings (including technological solutions);
- The planning, environmental review, and design of an eligible project type.

Eligible Recipients:

- States, including the District of Columbia, Puerto Rico, and other United States territories and possessions;
- Political subdivision of a state;
- Federally recognized Indian Tribe;
- A unit of local government or a group of local governments;
- A public port authority;
- A metropolitan planning organization;
- A group of the entities described above.

Conclusion

In conclusion, the Green-T Trumpet Interchange concept should be advanced with future planning and construction measures in coordination with GDOT and local governments (e.g., City of Savannah and Chatham County) as the Preferred Alternative. This design aligns with future traffic growth projections, supports planned and ongoing developments such as Eastern Wharf and President Square, and enhances overall mobility and safety. It achieves this by combining a flexible yet minimally intrusive design that closely preserves the existing footprint while accommodating multi-modal and pedestrian features. The project will advance through additional environmental and engineering phases to address historic, archaeological, and ecological considerations while engaging community stakeholders to ensure alignment with Savannah's long-term vision for sustainable development.

List of Attachments

Attachment A – Design Traffic Forecasting Methodology

Attachment B – Trip Generation Assumptions

Attachment C – Intersection (Synchro) LOS Analysis Results

Attachment D – VISSIM Input Data & Analysis Results

Attachment E – B/C Ratio Analysis Spreadsheets

Attachment F – Public Involvement & Stakeholder Meeting Summaries

Attachment A – Design Traffic Forecasting Methodology

Field Traffic Counts – March 2024

Growth Rate Calculations

- CORE MPO Travel Demand Model Data
- GDOT Historic Traffic Volumes / Count Location Map
- State/County Population Data (from CORE MPO report)

Attachment B – Trip Generation Assumptions

- Trip Generation Assumption Methodology
- Assigned Trip Generation Volumes
- 2021 Preliminary Traffic Analysis – Bremer Tract
- 2016 President Square Master Development Plan

Attachment C – Intersection (Synchro) LOS Analysis Results

- 2024 Existing AM / Noon / PM Synchro Output

- 2030 Future No-Build AM / Noon / PM Synchro Output
- 2050 Future No-Build AM / Noon / PM Synchro Output

- 2030 Alternative 2 Build AM / Noon / PM Synchro Output
- 2050 Alternative 2 Build AM / Noon / PM Synchro Output

- 2030 Alternative 3 Build AM / Noon / PM Synchro Output
- 2050 Alternative 3 Build AM / Noon / PM Synchro Output

Attachment D – VISSIM Input Data & Analysis Results

- Methodology Discussion
- 2024 Final VISSIM Input Volumes
- 2050 No-Build Final VISSIM Input Volumes
- 2050 Alternative 2 Final VISSIM Input Volumes
- 2050 Alternative 3 Final VISSIM Input Volumes

- AM / PM Existing Train Blockages
- VISSIM vs. RITIS Calibration Data

- 2024 VISSIM Delay Results
- 2050 No-Build VISSIM Delay Results
- 2050 Alternative 2 VISSIM Delay Results
- 2050 Alternative 3 VISSIM Delay Results

Attachment E – B/C Ratio Analysis Spreadsheets

- B/C Ratio Analysis Spreadsheet – Alternative 2
- B/C Ratio Analysis Spreadsheet – Alternative 3

Attachment F – Public Involvement & Stakeholder Meeting Summaries

- Public Involvement Open House (PIOH) Summary – February 12, 2025
  - PIOH Comment Card Summary

- Online Community Survey Results – Tabulated Summary w/Additional Comments

- October 25, 2024 Letter from East Savannah Industrial Coalition
  - February 28, 2025 Letter from Georgia Ports