

Site Feasibility Study for Truck Parking and Park-and-Ride Lot

Final Report



Prepared for:



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EXECUTIVE SUMMARY

Gannett Fleming, Inc. was tasked by the Florida Department of Transportation (FDOT) District Six to provide planning and environmental management services associated for the development and evaluation of a truck parking facility and park-and-ride facility. The proposed project is located within the area of Miami Dade County, Florida, in the northwest quadrant of SR 836/Dolphin Expressway and SR 821/Homestead Extension of the Florida’s Turnpike (HEFT) interchange. The study focused on the area bounded by NW 25th Street to the north, SR 90/SW 8th Street to the south, NW 137th Avenue to the west, and SR 985/NW 107th Avenue to the east. Figures 1 and 2graphically depicts the project site location and study limits. These limits were selected based on the land use surrounding the project site.

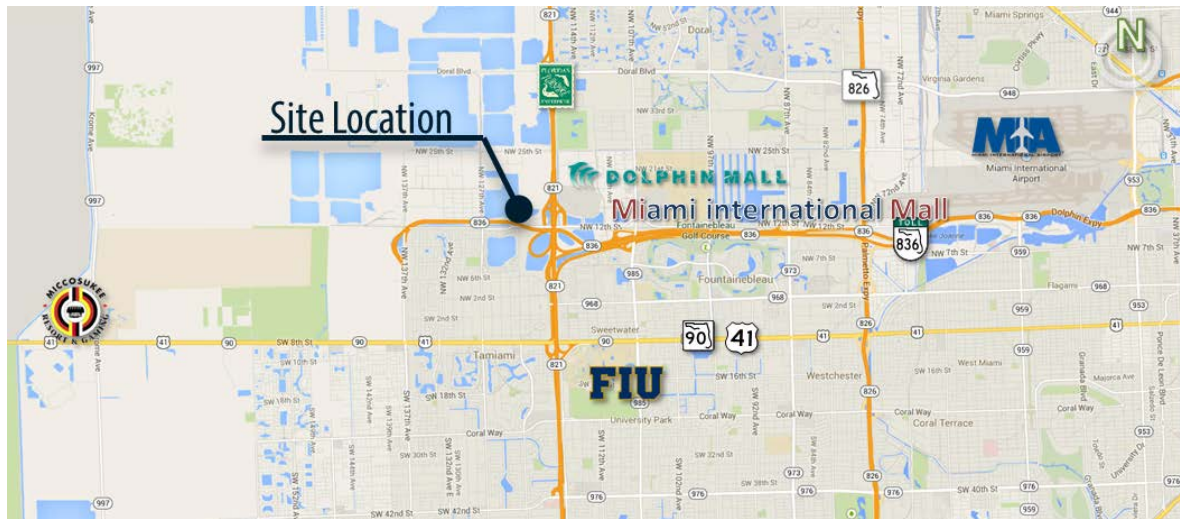


Figure 1: Project Site Location

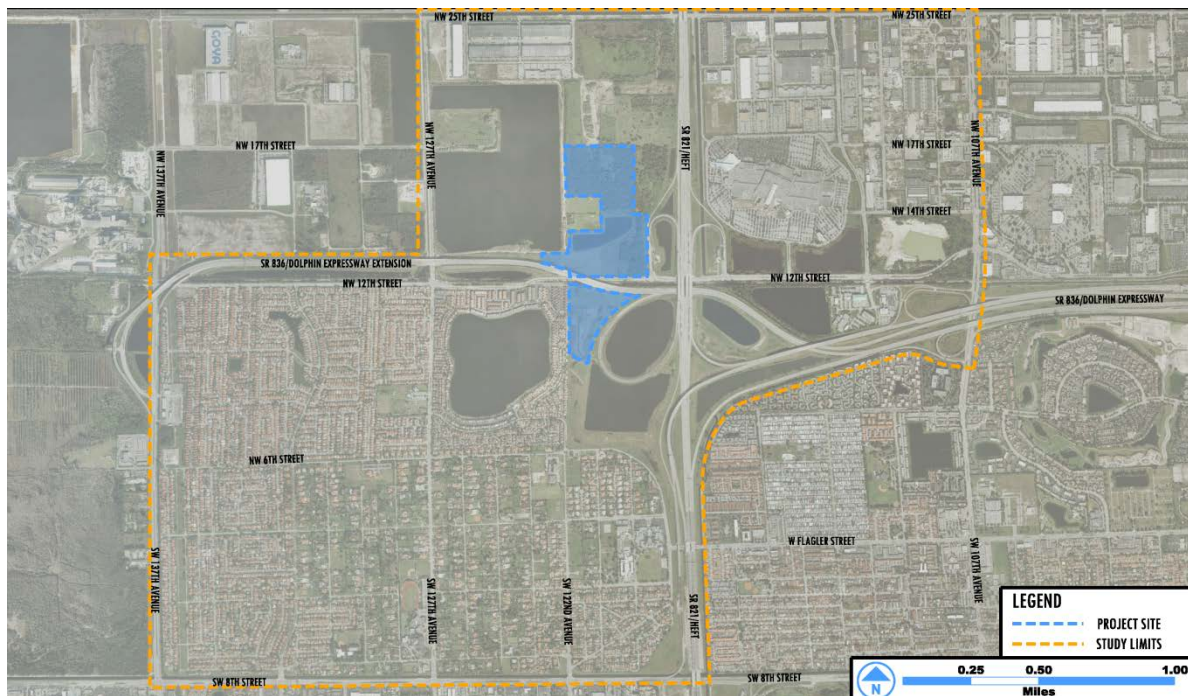


Figure 2: Project Site and Study Limits

The interchange between SR 821/HEFT, SR 836, and NW 12th Street is located about one mile west of NW 107th Avenue and two miles east of NW 137th Avenue. This interchange act as the main portal to an area that has seen significant growth in the last decade with the development of low and medium density housing southwest of the project site and industrial warehouses and Dolphin Mall north and northwest of the project site. Additionally, it provides eastward access to Miami International Airport, PortMiami, Downtown Miami, and potentially, it will serve the south-westernmost area of Miami-Dade County as potential southbound HEFT-to-westbound SR 836 and eastbound SR 836-to-northbound HEFT ramps are developed. These factors are especially important to transit development as well as freight operations.

Purpose

The purpose of this project was to conduct a site feasibility study, develop and evaluate alternatives, and recommend a layout for the construction of a new truck parking facility and a park-and-ride facility in this area of Miami-Dade County. These facilities are planned to increase the supply of truck parking spaces and enhance the current and future operations of transit to satisfy the provisions identified in Miami-Dade MPO studies and the needs already identified by Miami-Dade Transit (MDT). The project focused on maximizing access and use of all modes of transportation, preserving future expansion needs for multimodal transportation facilities, enhancing mobility of the adjacent corridors, including movement of freight and goods, and conducting intergovernmental coordination with emphasis on communication with key decision makers and stakeholders.

The purpose of the feasibility analysis was to identify facility needs, constraints, general mitigation, planning issues, costs, implementation issues and steps, to develop and examine alternatives for the accommodation of a truck parking and park-and-ride facilities, conduct technical and environmental screening, determine the preferred configuration of said facilities, and provide future guidance for later phases of the project.

Overall System Goals



Existing Conditions

Area Demographics

The study limits and project site are located entirely within Miami-Dade County. Based on the 2010 Census data, the County's total population was estimated at 2,496,435 while City of Doral and Sweetwater showed populations of 45,704 and 13,499, respectively. The cities' populations are estimated to increase 5.3 and 3.0 percent, respectively, between April 2010 and July 2012. Most of the area southwest of the proposed project, between NW 12th Street, SR 90/SW 8th Street, contributes a high concentration of residents.

Transit

Route 137 comes within the study area at SW 137th Avenue and SW 8th Street and approaches International Mall and Dolphin Mall via SW 132nd Avenue, NW 6th Street, West Flagler Street and NW 107th Avenue. Route 212 (Sweetwater Circulator) serves West Flagler Street and SW 4th Street, between NW 117th Avenue and SW 107th Avenue. Other routes servicing the study area include Routes 7, 36B, 51, 71, and 238. Figure 3 shows the study area's existing and future transit routes.

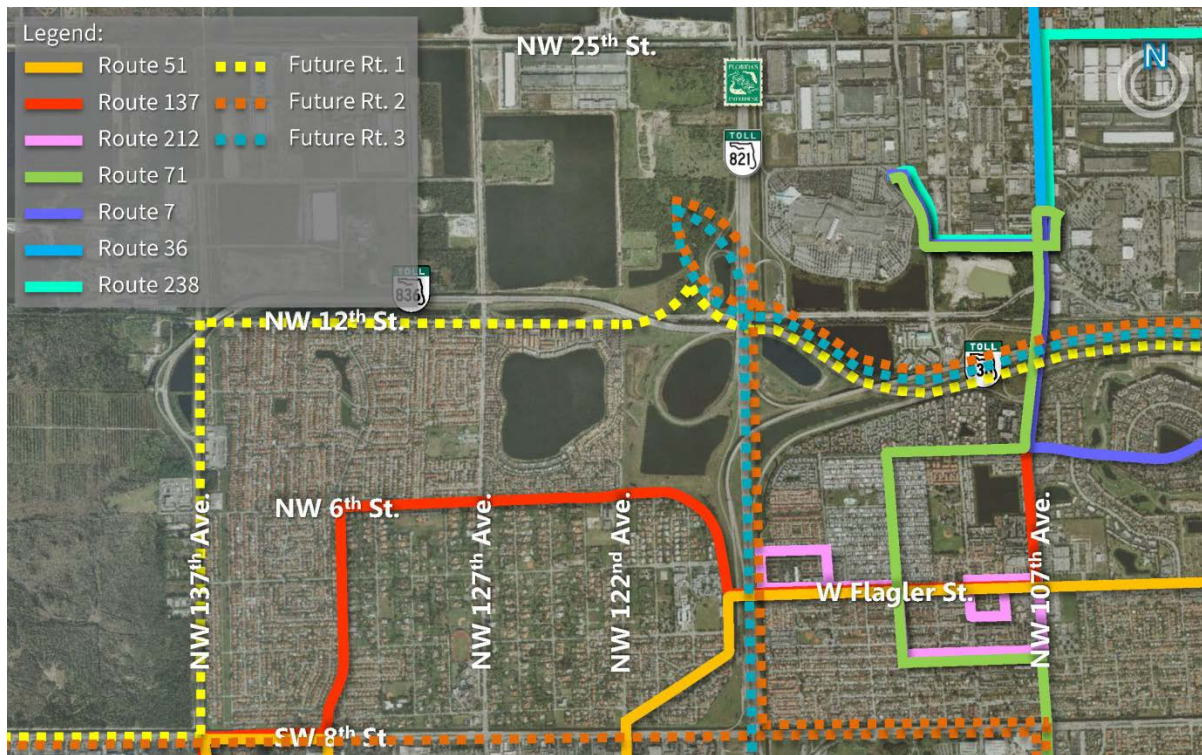


Figure 3: Study Area Existing and Future Transit Routes

Railroad Crossings

The CSX railroad tracks are located approximately 25 feet south of NW 12th Street near the area where the truck parking and park-and-ride facilities are proposed. The CSX railroad tracks cross NW 12th Street west of the project site, approximately 300 feet east of the intersection with NW 124th Pat. The CSX railroad tracks also cross NW 137th Avenue, NW 127th Avenue, NW 107th Avenue.

Pedestrian and Bicycle

Sidewalks are provided within the majority of the major roadways within the study area while bicycle facilities are only provided on a few roadway segments within the northwest quadrant of the study area. Figure 4 shows the locations of the existing bicycle and pedestrian facilities within the study area.

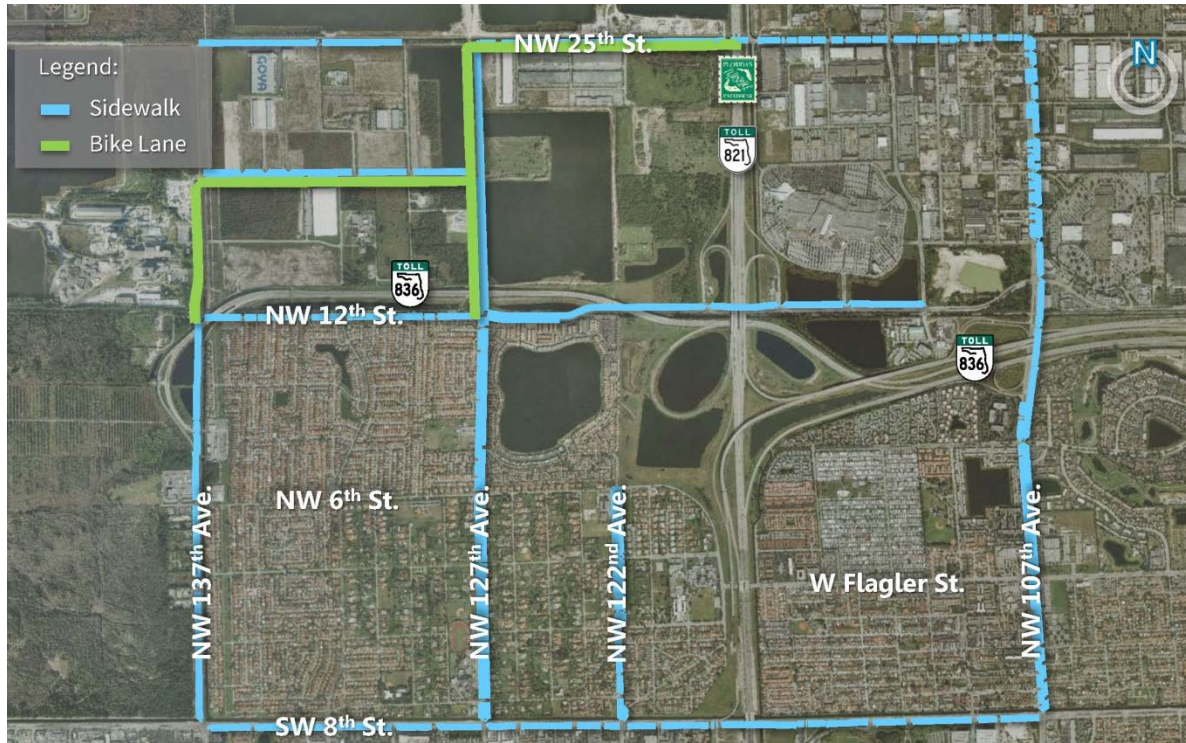


Figure 4: Existing Bicycle and Pedestrian Facilities with Study Area

Safety Analysis

The most recent available crash data pertaining to the study area were gathered and analyzed. Table 1 presents a summary of these data.

<p>NW 25th Street (From NW 127th Ave to NW 107th Ave)</p> <ul style="list-style-type: none"> • 24 Total Crashes • 2 Pedestrian Crashes • 0 Bicycle Crashes • 0 Fatalities • 7 Collision with Fixed Object • 4 Angle Crashes • 4 Left-Turn Crashes 	<p>NW 12th Street (From NW 137th Ave to NW 107th Ave)</p> <ul style="list-style-type: none"> • 99 Total Crashes • 0 Pedestrian Crashes • 0 Bicycle Crashes • 3 Fatalities • 17 Collision with Fixed Object • 17 Angle Crashes • 28 Rear End Crashes 	<p>Eastbound and Westbound SR 836 Off-Ramps at NW 107th Avenue</p> <ul style="list-style-type: none"> • 6 Total Crashes • 0 Pedestrian Crashes • 0 Bicycle Crashes • 0 Fatalities • 2 Left Turn • 2 Rear End Crashes
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Table 1: Summary of Crash Data within Study Area

Right-of-Way

The existing available right-of-way (ROW) information of the parcels where the truck parking facility and the park-and-ride facility are proposed was provided by the FDOT. Figure 5 depicts ROW of the existing lots which were considered during this study for the location of the truck parking and park-and-ride facilities.



Figure 5: Existing Right-of-Way within Project Site

Land Use

The existing land use directly adjacent to the study area is predominantly industrial, office, commercial, and medium density residential. A generalized existing land use map of the study is presented in Figure 6.

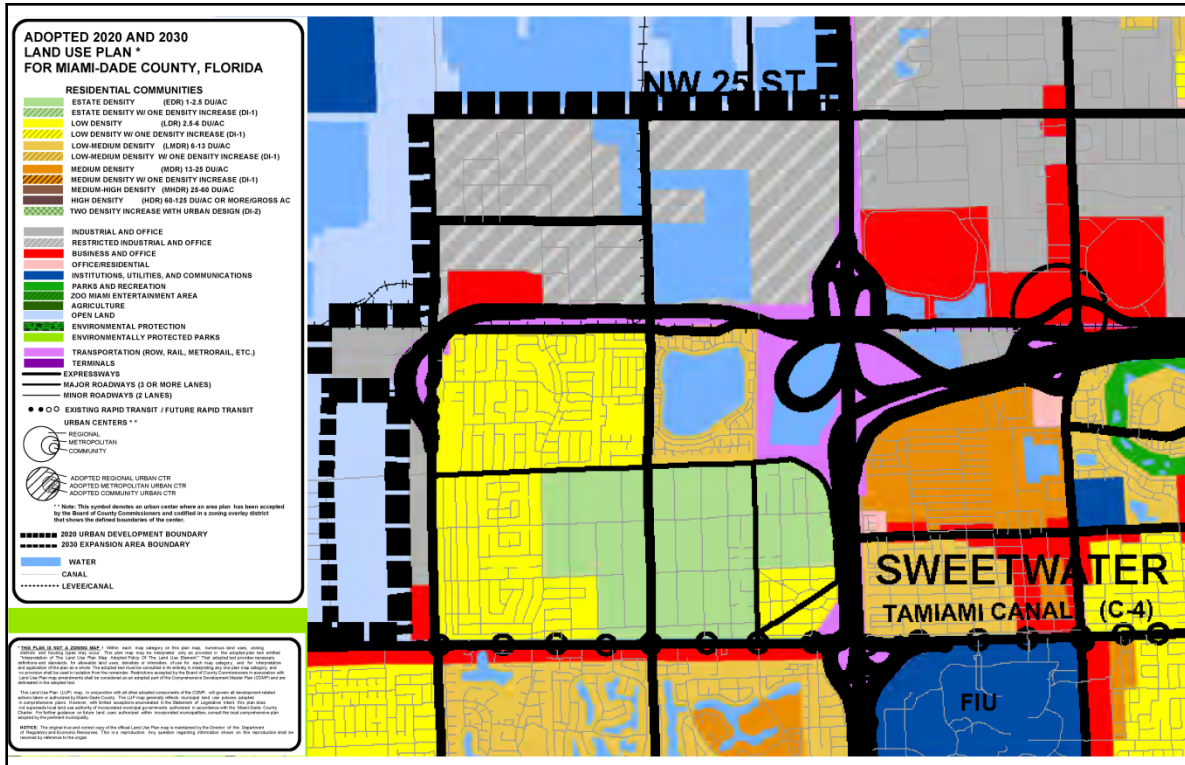


Figure 6: Existing Land Use Surrounding Study Area

Stakeholder Involvement

A Project Advisory Team (PAT) was organized with direction from the Project Management Team (PMT), which included representatives from the Regional Planning Councils, City Engineering and/or City Planning Departments, County Engineering Departments, County Planning Departments, County Public Transit Operators, County Bicycle and Pedestrian Coordinator, Miami-Dade Expressway Authority (MDX), FDOT Office of Modal Development, FDOT Design Office, FDOT Traffic Operations Office, FDOT Right-of-Way Office, Florida Turnpike Enterprise (FTE), regional transit providers, and others, as determined by the PMT. The PAT members were responsible for reviewing and commenting on all project deliverables as detailed in the Scope of Services. A total of three (3) PAT meetings were held during the course of this study.



Concept Development

The initial concept development for the project site consisted of creating “bubble diagrams” that accurately illustrate the space requirements needed for the proposed improvements. These “bubble diagrams” were based on three components: truck parking, tandem truck parking, and park-and-ride. The exercise consisted of developing areas for the three components with the corresponding sizes as per the aforementioned requirements and preferences. The areas for the different amenities of the components were then accommodated in various layouts within the existing public right-of-way, to analyze if the requirements and preferences for the three facilities would fit within the available space. Emphasis on the accessibility was maintained during this process since access to and from the project site was expressed to be crucial during coordination with FTE and MDX. Feedback from these agencies was used to determine potential use of their right-of-way and proposed system to allow for possible connections to and from the project site. As spacing and amenities requirements and preferences were met and interagency coordination took place, conceptual layouts for the Truck Parking, Tandem Truck Parking, and Park-and-Ride facilities were created and refined. Figure 7 portrays a sample of the bubble diagrams created during the initial concept development stage.



Figure 7: Bubble Diagram Example

Recommendations

Ultimately, conceptual alternatives were developed with a multimodal perspective, focusing on the individual needs and requirements from which the project originated and those expressed by the involved stakeholders during this study’s outreach process. The conceptual alternatives developed were subject to multiple reviews by the involved agencies as well as a qualitative and quantitative screening process. This ultimately led to a conceptual alternative that although did not meet each specific requirement, it met the majority of the project needs. All agencies were in concurrence that the concepts proposed in Alternative 3 would help to provide a much needed increase in the supply of truck parking spaces within Miami-Dade County; they would enhance the current transit operations and provide a logical terminus for planned routes; and would improve the overall mobility and accessibility for different modes of transportation within the area as well as the region, especially with the provision of system to system ramps. Figure 8 graphically depicts conceptual Alternative 3.

Additionally, because of all the agencies and stakeholders involved with the development of this project, it is recommended that sufficient and constant coordination take place during later phases and that this coordination is properly documented.

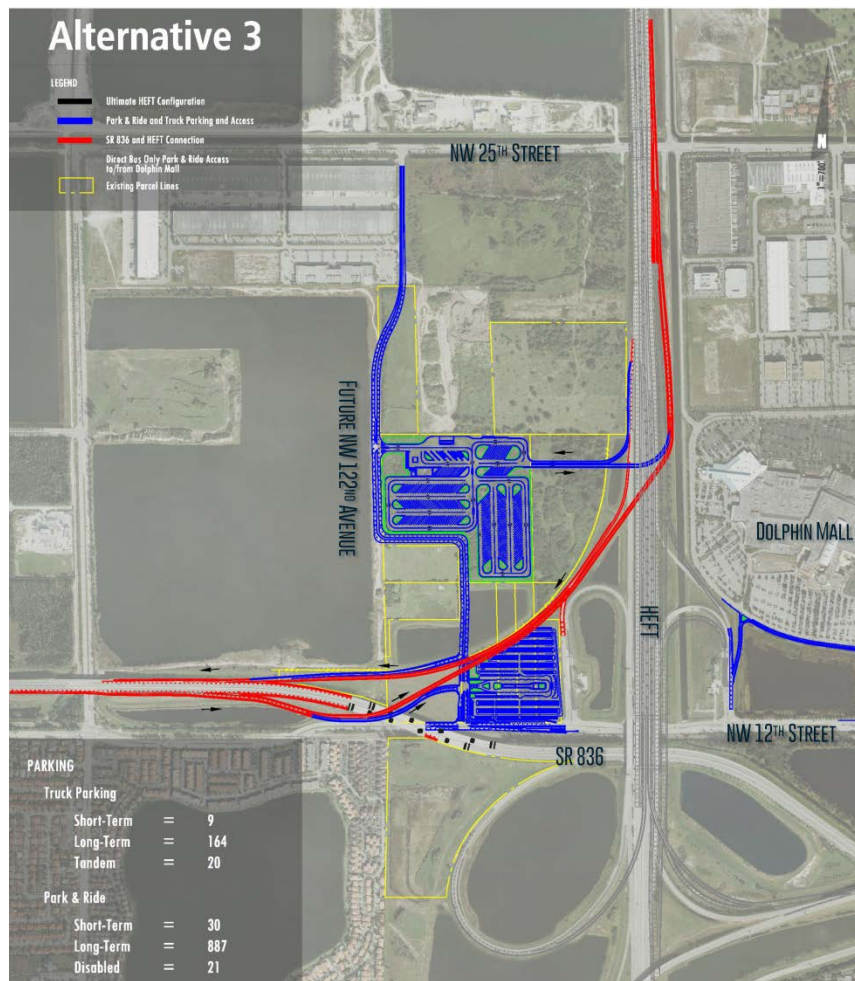


Figure 8: Conceptual Alternative 3

The following is a compendium of the technical memoranda produced during the course of this study as per the Scope of Services.

Technical Memorandum No. 1

(Project Need Statement)

Presents existing conditions including crash data, transit data, pedestrian and bicycle facilities, roadway data, access management data, and traffic data. Other data regarding project related documents, environmental features, land use, utilities, and railroad crossing were also collected and are presented herein.

Preliminary Traffic Report

Presents an inventory of existing traffic conditions and provides preliminary estimates of future traffic volumes and the potential impacts to the roadway network.

Technical Memorandum No. 2

(Local Agency Input / Presentations and Meetings)

Presents the comments, acknowledgments, and responses that were collected during intergovernmental coordination as well as all of the presentation material used during the outreach process.

Technical Memorandum No. 3

(Engineering Alternatives)

Presents the process of how alternatives were conceptualized based on the existing conditions analysis and feedback from the Project Advisory Team (PAT).

Technical Memorandum No. 4

(Engineering Alternatives Analysis)

Presents a preliminary environmental assessment, potential costs, the screening process, and recommendations for the conceptualized alternatives.