

Project Development & Environment Study
SR 714 / Monterey Road at FEC Railroad Crossing
Financial Project ID No. 441636-2-22-02
December 2025



PROJECT TRAFFIC ANALYSIS REPORT (PTAR)

Florida Department of Transportation

District 4

SR 714 / Monterey Road at FEC Railroad Crossroad

Limits of Project: from SR 76/Kanner Highway to CR A1A in the east and west
direction and along US-1 and CR A1A, from SE Indian Street to SR 5A
in the north-south direction.

Martin County, Florida

County Section No.: 89030000; 89000013; 89092000; 89010000

Bridge No.: N/A

Railroad Crossing No.: 272353M; 272350S; 272351Y

Project Type: Highway

Federal Funding: No

Anticipated Class of Action: Type 2 Categorical Exclusion

Financial Management Number: 441636-2-22-02

ETDM Number: 14527

Date: December 1, 2025

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT.

X

James E. Spinks III, PE, PTOE
VP - S. Florida Engineering Office Manager



TABLE OF CONTENTS

1.0	SUMMARY OF THE PROJECT	1
1.1	PROJECT DESCRIPTION.....	1
1.1.1	PROJECT LOCATION	1
1.2	BACKGROUND	2
1.3	PURPOSE & NEED	4
1.4	FDOT 5-YEAR WORK PROGRAM	5
2.0	METHODOLOGY	9
2.1	AREA OF INFLUENCE.....	10
2.2	DESIGN PERIOD.....	11
2.3	DATA COLLECTION AND SOURCES	11
2.4	BASE TRAFFIC DATA	12
2.5	TREASURE COAST REGIONAL PLANNING MODEL	12
2.6	ANALYSIS PROCEDURES, TOOLS AND FACTORS.....	14
2.7	LOS CRITERIA.....	14
2.8	DESIGN TRAFFIC.....	14
3.0	EXISTING CONDITIONS	14
3.1	CORRIDOR CHARACTERISTICS.....	15
3.2	EXISTING LAND USE	15
3.3	MOBILITY ELEMENTS	18
3.4	CULTURAL ELEMENTS	18
3.5	NATURAL AND BIOLOGICAL FEATURES	21
3.6	WATER RESOURCES	21
3.7	FLOOD PLAINS	22
3.8	PROTECTED SPECIES AND HABITAT	22
3.9	ROADWAY CHARACTERISTICS.....	23
3.10	FEC RAILROAD CHARACTERISTICS	24
3.11	WITHAM FIELD AIRPORT CHARACTERISTICS	24
3.12	EXISTING TRAFFIC DATA.....	25
3.13	EXISTING YEAR 2022 – OPERATIONAL ANALYSIS	27
3.14	SAFETY ANALYSIS	38
4.0	DEVELOPMENT OF FUTURE TRAFFIC FORECASTS	44
4.1	FUTURE TRAFFIC DEVELOPMENT/DEVELOPMENT OF AADTs	44
4.2	TRAVEL DEMAND FORECASTING.....	44
4.3	DEVELOPMENT OF DDHV VOLUMES	45
5.0	FUTURE CONDITIONS	49
5.1	PROJECT ALTERNATIVES	49
5.1.1	ALTERNATIVE 1 (ALSO KNOWN AS FEASIBILITY CONCEPT 3, VERSION 5)	50
5.1.2	ALTERNATIVE 2 (ALSO KNOWN AS FEASIBILITY CONCEPT 3, v6)	51
5.1.3	ALTERNATIVE 3 (ALSO KNOWN AS FEASIBILITY CONCEPT 10).....	52
5.1.4	TSM&O IMPROVEMENTS	53
6.0	FORECASTED AADTS AND TURNING MOVEMENT VOLUMES.....	54
6.1	GROWTH RATE CALCULATIONS	54
6.1.1	NO-BUILD, ALTERNATIVE 1 GROWTH RATE	55
6.1.2	ALTERNATIVE 3 GROWTH RATE.....	55

6.2	FUTURE AADTs AND DHVs	56
7.0	FUTURE YEAR TRAFFIC ANALYSIS	86
7.1	NO BUILD 2030 AND 2050 TRAFFIC ANALYSIS	87
7.2	ALTERNATIVE 1 2030 AND 2050 TRAFFIC ANALYSIS	94
7.3	ALTERNATIVE 3 2030 AND 2050 TRAFFIC ANALYSIS	97
7.4	TSM&O ALTERNATIVE ANALYSES	100
7.4.1	NO BUILD TSM&O ALTERNATIVE ANALYSIS	100
7.4.2	ALTERNATIVE 1 TSM&O ALTERNATIVE ANALYSIS	104
7.4.3	ALTERNATIVE 3 TSM&O ALTERNATIVE ANALYSIS	108
7.5	FUTURE QUEUE ANALYSIS	112
7.6	PERFORMANCE INDEX ANALYSIS	117
8.0	FUTURE SAFETY BENEFITS	118
8.1	SELECTION OF CRASH MODIFICATION FACTORS	118
8.2	SAFETY BENEFIT CALCULATION	118
9.0	CONCLUSIONS	119

LIST OF TABLES

<i>Table 1: Existing Land Use</i>	<i>17</i>
<i>Table 2: Recreational Land Uses</i>	<i>20</i>
<i>Table 3: 2022 Existing Year AM and PM Peak Hour Synchro Output</i>	<i>29</i>
<i>Table 4: 2022 Existing Year AM and PM Peak Hour Queue Lengths</i>	<i>35</i>
<i>Table 5: Crash Summary – Intersection 4</i>	<i>41</i>
<i>Table 6: Traffic Factors</i>	<i>44</i>
<i>Table 7: FDOT Standard K Factors</i>	<i>47</i>
<i>Table 8 – TSM&O Intersection Improvements</i>	<i>54</i>
<i>Table 9 – Build Alternative 3 Growth Rate Recommendations</i>	<i>57</i>
<i>Table 10 – No Build Recommended AADTs and DHVs</i>	<i>59</i>
<i>Table 11 – Alternative 1 - Build Recommended AADTs and DHVs</i>	<i>60</i>
<i>Table 12 – Alternative 3 - Build Recommended AADTs and DHVs</i>	<i>61</i>
<i>Table 13 – No Build 2030 and 2050 Peak Hour Delays and LOS</i>	<i>89</i>
<i>Table 14 – Alternative 1 2030 and 2050 Peak Hour Delays and LOS</i>	<i>96</i>
<i>Table 15 – Alternative 3 2030 and 2050 Peak Hour Delays and LOS</i>	<i>99</i>
<i>Table 16 – No Build TSM&O 2030 and 2050 Peak Hour Delays and LOS</i>	<i>101</i>
<i>Table 17 – Alternative 1 TSM&O 2030 and 2050 Peak Hour Delays and LOS</i>	<i>105</i>
<i>Table 18 – Alternative 3 TSM&O 2030 and 2050 Peak Hour Delays and LOS</i>	<i>109</i>
<i>Table 19 – Queue Analysis Results</i>	<i>113</i>
<i>Table 20 – Performance Index Comparison</i>	<i>117</i>
<i>Table 21 – Annual Crash Reduction Calculations</i>	<i>118</i>

LIST OF FIGURES

Figure 1: Project Location	2
Figure 2: FDOT Work Program - Pre-Construction Projects	5
Figure 3: FDOT Work Program – Between Design-Construction Projects	7
Figure 4: FDOT Work Program – Under Construction Projects	8
Figure 5: Study Area and Target Intersections	11
Figure 6: Project Location Map	16
Figure 7: Land Use Map	17
Figure 8: Historic Resources Map	19
Figure 9: Recreational Areas Map	20
Figure 10: Wetlands Map	21
Figure 11: 2022 Existing Year AADTs	26
Figure 12: Study Area and Target Intersections	38
Figure 13: Intersection 4 – Crash Diagram	39
Figure 14: Total Crashes in 5 Years – Intersection 4	40
Figure 15: Crash Severity – Intersection 4	40
Figure 16: Crash Histograms – Intersection 4	43
Figure 17: Alternative 1	51
Figure 18: Alternative 2	52
Figure 19: Alternative 3	53
Figure 20: Existing and No-Build AADT	62
Figure 21: Alternative 1 - Build AADT	64
Figure 22: Alternative 3 - Build AADT	66
Figure 23: Existing and No-Build DHV	68
Figure 24: Alternative 1 - Build DHV	70
Figure 25: Alternative 3 - Build DHV	72
Figure 26: Existing & Future Estimated AM Peak Hour Turning Movement Projections	74
Figure 27: Existing & Future Estimated PM Peak Hour Turning Movement Projections	76
Figure 28: Alternative 1 – Build - Estimated AM Peak Hour Turning Movement Projections	78
Figure 29: Alternative 1 – Build - Estimated PM Peak Hour Turning Movement Projections	80
Figure 30: Alternative 3 – Build - Estimated AM Peak Hour Turning Movement Projections	82
Figure 31: Alternative 3 – Build - Estimated PM Peak Hour Turning Movement Projections	84
Figure 32: Alternative 1 Layout	94
Figure 33: Alternative 3 Layout	97

LIST OF APPENDICES

- Appendix A – MLOU – September 2024
- Appendix B – Initial Traffic Forecasting Memo – April 2023
- Appendix C – Updated Traffic Forecasting Memo – August 2024
- Appendix D – Revised Traffic Forecasting Memo – December 2024
- Appendix E – Martin County Transit Route Maps
- Appendix F – Existing Condition Synchro Output Reports
- Appendix G – Qualitative Safety Analysis Report
- Appendix H – Future Condition Synchro Output Reports
- Appendix I – Full Synchro Output Table
- Appendix J – FHWA CFM

1.0 Summary of the Project

1.1 Project Description

A comprehensive Project Traffic Analysis Report (PTAR) was conducted in accordance with the Project Development & Environment (PD&E) Manual to comply with the Department's requirements. The purpose of this study was to develop an LCDA (Location and Design Concept Acceptance) for a design alternative that is anticipated to improve the traffic operations of SR 714/Monterey Road at the Florida East Coast Railway (FEC). Based on Martin County's historical traffic assessment, there are major contributing factors to the traffic congestion/delay within the area, which are intensified when railroad crossing gates are down during deliveries for the following two (2) concrete plants:

- CEMEX located at 1232 SE Dixie Highway, Stuart, FL 34994
- Supermix located at 1715 SE Federal Highway, Stuart, FL 34994

The Department is performing this PD&E to address this intersection's unique issues and constraints by exploring potential alternatives to eliminate or reduce the conflicts within the railroad crossings while enhancing the traffic operations of the subject intersection, providing a safer and more efficient transportation system for our community.

1.1.1 Project Location

The existing railroad crossing at SR 714/Monterey Road and Florida East Coast Railway (FEC) is located approximately 50 feet west of SR A1A/Old Dixie Highway and approximately 1,200 feet east of SR5/US-1. It also should be noted that SR 714/Monterey Road is currently designated as an evacuation route between SR A1A/Old Dixie Highway to the east and I-95 to the west. **Figure 1** includes the study limits and the area of influence for this project.

As part of the pre-work for this project, utilizing traffic data collected in September 2022 and the Treasure Coast Regional Planning Model Version 5 (TCRPM 5), the most recent at the time, a initial *Traffic Forecasting Memorandum Report, April 2023* based on the existing roadway configuration for 16 intersections in the study area was submitted in April 2023 that included 2045 no-build traffic forecasting projections for the future year AADTs, DHV and peak hour turning movements. This forecast will be utilized for Alternative 1. This information was to be provided by the Department to the awarded PD&E team.

Project Traffic Analysis Report (PTAR)

Alternative that is expected to relieve congestion on the parallel roads such as Monterey Road and Indian Street. This new alternative revised the existing roadway configurations by extending the Monterey Road Extension to connect with SR A1A to the east. Revising the existing roadway configuration invalidates the initial traffic forecasting projections. Therefore, it was determined that this alternative will also need to be evaluated using an updated travel demand model that includes the extension.

In August 2024, to accurately assess the related traffic projections, the Department initiated their modeling consultant to develop a subarea model validation procedure and detailed 2045 model-based traffic projections for this new alternative. As part of this effort, using the updated Treasure Coast Regional Planning Model Version 5.1 (TCRPM5.1) with the new extension coded, an *Updated Traffic Forecasting Memorandum, August 2024* was completed with revised 2045 AADT, DHV and peak hour turning movement traffic forecasts for the new additional build alternative (known as Alternative 3), which was provided to the PD&E study team by the Department.

During the PD&E project scoping, it was also determined that the PD&E would utilize an Existing Year (2022), Opening Year (2030), Mid-Year (2040) and Design Year (2050).

Using the aforementioned reports and data, Volkert Inc., as a subconsultant to HW Lochner, Inc. (Lochner) was retained by the Florida Department of Transportation (FDOT) to complete the Project Traffic Analysis Report (PTAR) as part of the PD&E efforts. This effort included completing a Revised Traffic Forecasting Memorandum with 2050 projections for the future no-build and the two (2) build scenarios.

1.3 Purpose & Need

The purpose of this Traffic Analysis was to evaluate three (3) project alternatives to improve traffic operations, emergency evacuation route, while providing a more efficient system linkage and enhancing multimodal connectivity to support social and transportation related demands. However, through meetings with various shareholders and FDOT staff after the start of the project, one of the original alternatives was deemed infeasible. Therefore, in addition to the “No-Build” scenario, two (2) conceptual design alternatives were analyzed. Transportation Management Systems & Operations (TSM&O) improvement scenarios were also included as separate alternatives. After identifying the ultimate preferred alternative, an LDCA will be obtained for the subject intersection.

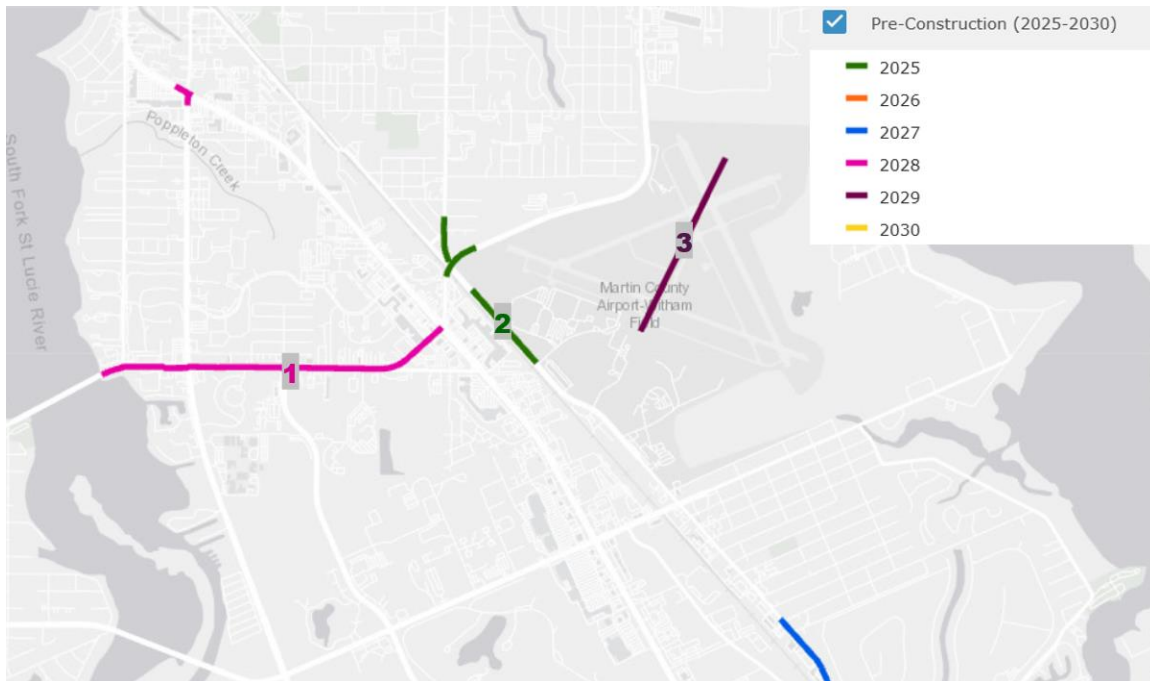
THIS AREA WAS INTENTIONALLY LEFT BLANK

1.4 FDOT 5-Year Work Program

The FDOT Work Program database (*FDOT D4 – GIS Viewer Plus*) was reviewed to identify ongoing construction projects and programmed improvements within the study limits, as described below.

Pre-Construction Projects:

Figure 2: FDOT Work Program - Pre-Construction Projects



- **No. 1: FM # 449829.1**

- **Version:** Tentative
- **FM Number:** 449829.1
- **Location Description:** SR-714/SE MONTEREY ROAD FROM SW PALM CITY RD TO 400 FT S OF SR-5/US-1
- **Project Manager:** Claudia Vinitskiy-Calvo
- **County:** MARTIN
- **Status:** PRE-CONST.UNDERWAY
- **Work Mix:** RESURFACING
- **Estimated Work Begin Date:** 11/17/2027
- **Estimated Work End Date:** 4/6/2029

- **No. 2: FM # 444405.2**

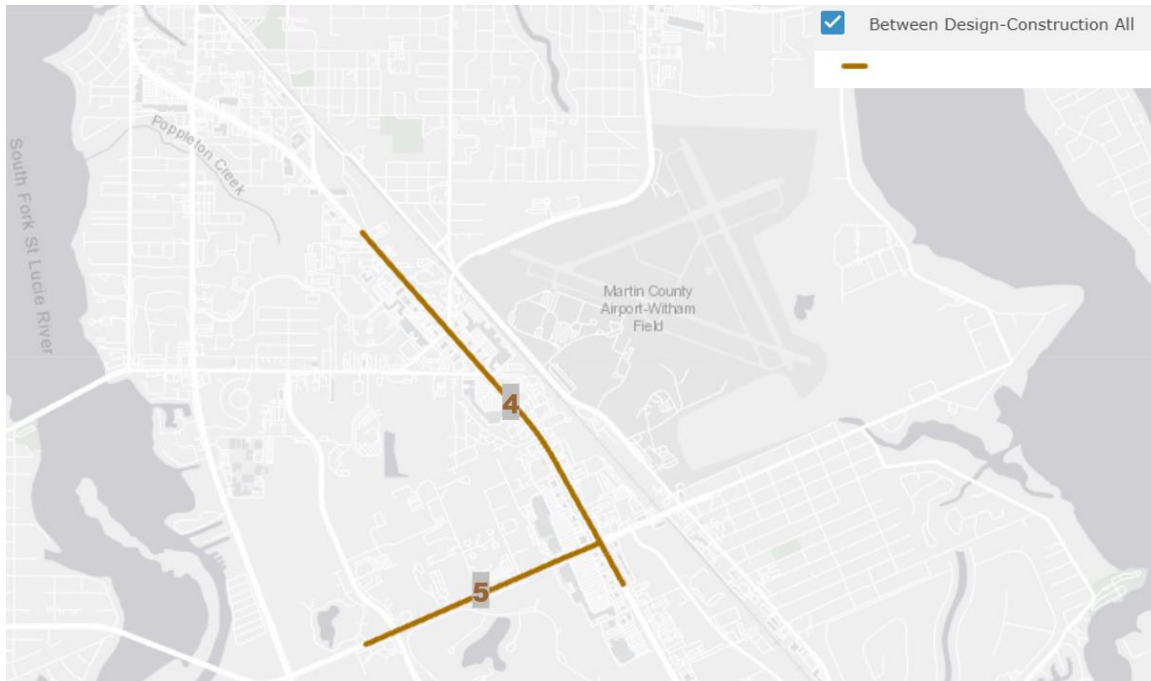
- **Version:** ADOPTED
- **FM Number:** 444405.2
- **Location Description:** SR-714 SE MONTEREY ROAD AND CR-A1A MULTIMODAL PATHWAY
- **Project Manager:** Mya Williams
- **County:** MARTIN
- **Status:** ADOPTED, NOT BEGUN
- **Work Mix:** BIKE LANE/SIDEWALK
- **Estimated Work Begin Date:** 3/12/2025
- **Estimated Work End Date:** 8/25/2025

- **No. 3: FM # 453361.1**

- **Version:** ADOPTED
- **FM Number:** 453361.1
- **Location Description:** WITHAM FIELD AIRPORT - REHABILITATION OF TAXILANE B (CONSTRUCT)
- **Project Manager:** Laurie McDermott
- **County:** MARTIN
- **Status:** PRE-CONST.UNDERWAY
- **Work Mix:** AVIATION CAPACITY PROJECT
- **Estimated Work Begin Date:** n/a
- **Estimated Work End Date:** n/a

Between Design-Construction Projects:

Figure 3: FDOT Work Program – Between Design-Construction Projects



• **No. 4: FM # 453361.1**

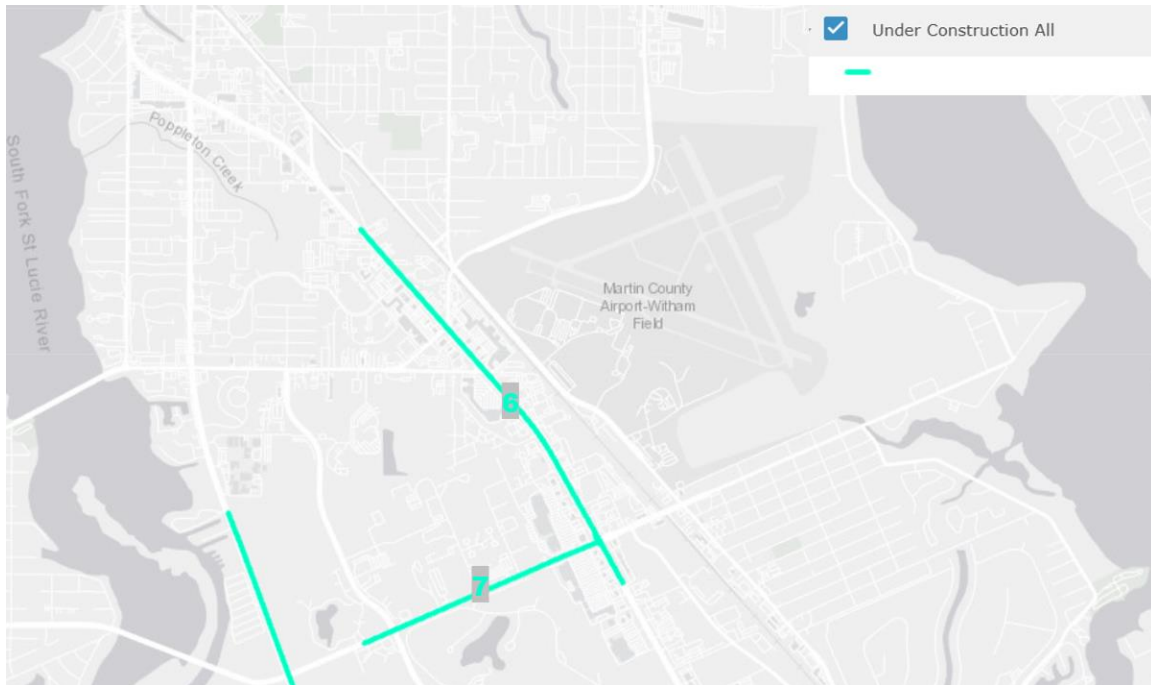
- **Version:** TENTATIVE
- **FM Number:** 447649.1
- **Location Description:** SR-5/US-1 FROM NORTH OF SE FISCHER ST. TO NORTH OF SE DECKER AVE
- **Project Manager:** Binod Basnet
- **County:** MARTIN
- **Work Mix:** RESURFACING
- **Estimated Work Begin Date:** 4/13/2025
- **Estimated Work End Date:** 4/23/2026

• **No. 5: FM # 453361.1**

- **Status:** TENTATIVE
- **FM Number:** 441922.1
- **Location Description:** SE INDIAN STREET FROM SE GATEHOUSE CIRCLE TO US-1/SE FEDERAL HIGHWAY
- **Project Manager:** Jason Nwamah
- **County:** MARTIN
- **Work Mix:** RESURFACING
- **Estimated Work Begin Date:** n/a
- **Estimated Work End Date:** n/a

Under Construction Projects:

Figure 4: FDOT Work Program – Under Construction Projects



• **No. 6: FM # 447649.1**

- **Status:** TENTATIVE
- **FM Number:** 447649.1
- **Location Description:** SR-5/US-1 FROM NORTH OF SE FISCHER ST. TO NORTH OF SE DECKER AVE
- **Project Manager:** Binod Basnet
- **County:** MARTIN
- **Work Mix:** RESURFACING
- **Estimated Work Begin Date:** 4/13/2025
- **Estimated Work End Date:** 4/23/2026

• **No. 7: FM # 441922.1**

- **Status:** TENTATIVE
- **FM Number:** 441922.1
- **Location Description:** SE INDIAN STREET FROM SE GATEHOUSE CIRCLE TO US-1/SE FEDERAL HIGHWAY
- **Project Manager:** Jason Nwamah
- **County:** MARTIN
- **Work Mix:** RESURFACING
- **Estimated Work Begin Date:** n/a
- **Estimated Work End Date:** n/a

2.0 Methodology

A Methodology Letter of Understanding (MLOU) was prepared to document the methodology for the analysis and evaluation of this Interchange Modification Report (IMR). The MLOU was approved by the FDOT District 4 Interchange Review Coordinator (IRC) in September 2024. A summary of the methodology is detailed below and a signed copy of the MLOU is provided in **Appendix A**.

Detailed review of the approved *Methodology Letter of Understanding (MLOU)*, *September 2024* is recommended prior to the review of this report.

The methodology used for travel demand forecasting and development of design hour traffic is consistent with the FDOT Project Traffic Forecasting Handbook. The primary basis for traffic projections is traffic tube counts and intersection turning counts, FDOT Traffic Online (FTO) and the Treasure Coast Regional Planning Model Version 5 (TCRPM 5) with the base year 2015 and horizon year 2045.

For No-Build and Alternative 1, the AADT volumes and traffic data collection were previously performed in the Traffic Data Collection and Traffic Projections for SR 714/Monterey Road at FEC Railroad PD&E *Initial Project Traffic Forecasting Report, April 2023*. A copy of this report is included in **Appendix B**.

For Alternative 3, the projections from the *Updated Traffic Forecasting Memorandum Report, August 2024*, which utilized an updated subarea model validation procedure and detailed 2045 model, were utilized to develop the 2045 future year build traffic projections. A copy of this report is included in **Appendix C**.

As part of the PD&E efforts, a *Revised Project Traffic Forecasting Report, December 2024* was developed, detailing Average Annual Daily Traffic (AADT), Design Hour Volumes (DHV) and turning movement projections for the Existing

Year (2022), Opening Year (2030), Mid-Year (2040) and Design Year (2050). A copy of this report is included in **Appendix D**.

These projections are the basis of the Project Traffic Analysis Report (PTAR).

2.1 Area of Influence

Figure 2 depicts the proposed project's influence area within the SR 714/Monterey Road corridor (from west of Kanner Highway to south of SR A1A), including the following seventeen (19) existing intersections:

1. SR 714/Monterey Road at SR 76/Kanner Highway (Signalized)
2. SR 714/Monterey Road at SE Monterey Road Extension (Signalized)
3. SR 714/Monterey Road at US 1 (Signalized)
4. SR 714/Monterey Road at SR A1A (Signalized)
5. SR A1A at Decker Avenue/Railroad Avenue (Unsignalized)
6. SR A1A at SE Christie Way (Signalized)
7. SR A1A at SE Aviation Way (Signalized)
8. SR A1A at Airport Road (Signalized)
9. SR A1A at SR 5A (Unsignalized)
10. SR A1A at Indian Street (Signalized)
11. US 1 at SR 5A (Unsignalized)
12. US 1 at SE Contractors Way (Unsignalized)
13. US 1 at SE Central Parkway (Signalized)
14. US 1 at SE Monterey Road Extension/Grumman Boulevard (Signalized)
15. US 1 at Luckhardt Street (Signalized)
16. US 1 at Indian Street (Signalized)
17. SR 5A at SR A1A (Unsignalized)
22. SR 714/Monterey Road at SE Willoughby Boulevard (added)
23. SR 714/Monterey Road at SE Ray's Way (added)

Existing intersections 22 and 23 were added after the start of the project and are out of numerical order due to locations 18 through 21 having been previously applied to new intersections in the Synchro analysis.

Figure 5: Study Area and Target Intersections



2.2 Design Period

The following study years were established for this report:

- Existing year: 2022
- Opening year: 2030
- Design year: 2050

2.3 Data Collection and Sources

The data sources for this study are based on a combination of data that includes previous data collection efforts and additional data available from FDOT. The data sources within the project study area included:

- Existing Turning Movement Counts (TMCs) - collected in 2022
- Existing Traffic Data from FTO
- Existing TMCs provided by the Department of Transportation
- 2024 Project Development & Environment (PD&E) Manual
- 2024 Traffic Engineering Manual
- 2021 FDOT Traffic Analysis Handbook
- 2019 FDOT Project Traffic Forecasting Handbook
- Procedure 525-030-120 Project Traffic Forecasting
- 2023 FDOT Multimodal Quality/Level of Service Handbook
- TURNS5 Turning Movement Analysis Tool
- FDOT Traffic Trend Analysis Tool

2.4 Base Traffic Data

Existing turning movement counts (TMCs) previously collected for the Traffic Forecasting Memorandum report (prepared by HW Lochner) and existing TMCs provided by the Department were utilized in the traffic analysis. A detailed summary of the collected traffic data is provided in later sections of this report, and a copy of the traffic data is included in the Memorandum attached to this report.

Existing available traffic information from FDOT databases, past studies, prior projects, and other analysis performed within the project area were reviewed and utilized as part of the project area research to identify any gaps or discrepancies. The collected traffic counts and Historical AADTs are included in **Appendix D**.

2.5 Treasure Coast Regional Planning Model

Alternative 1 and 2

The projections from the *Initial Project Traffic Forecasting Report, April 2023* will be utilized to develop the future year build traffic projections for Alternative 1 and 2. This forecast included year 2022 traffic data collection for the 17 intersections in the study area, and an initial set of no-build alternative projections based on the

existing roadway configurations. These projections were developed using Treasure Coast Regional Planning Model Version 5 (TCRPM 5), the most recent at the time.

Alternative 3

The projections from the *Updated Traffic Forecasting Memorandum Report, August 2024* will be utilized to develop the future year build traffic projections for Alternative 3.

An updated subarea model validation procedure and detailed 2045 model-based traffic projections were developed for this new alternative. As part of this effort, updated AADT traffic forecasts for the no-build alternative, and the complete project traffic forecasts (AADTs and Turning Movements) for the additional build alternative were developed. The no-build will not be utilized for this current effort.

The Treasure Coast Regional Planning Model Version 5.1 (TCRPM5.1) was utilized for this PD&E forecasting support work. TCRPM5.1 is the current official regional model for Martin, St. Lucie and Indian River counties, and was used for their respective 2045 Long Range Transportation Plans. The model has a 2015 base year and 2045 forecast year. TCRPM5.1 is based on the CT-RAMP (Coordinated Travel Regional Activity-Based Modeling Platform) family of Activity-Based Models (ABM). The time-of-day volumes will be summed up in the modeling process to forecast the daily volumes (AADT).

The 2015 and 2045 TCRPM 5.1 outputs and a copy of both the initial Traffic Forecasting Memorandum report and the Updated Traffic Forecasting Memorandum will be included in the final report.

The 2015 and 2045 TCRPM outputs and a copy of both the *Initial Project Traffic Forecasting Report, April 2023* and the *Updated Traffic Forecasting Memorandum Report, August 2024* are included within the reports in **Appendix B** and **C**, respectively.

2.6 Analysis Procedures, Tools and Factors

Synchro 11 Traffic Analysis Software was used to analyze the traffic operations for the study intersections for both the AM and PM peak hours under the following scenarios:

- 2022 Existing Conditions
- 2030 Build Conditions (No-Build & 3 Build Alternatives)
- 2050 Build Conditions (No-Build and 3 Build Alternatives)

Synchro applies methodologies outlined in the Transportation Research Board (TRB) and Highway Capacity Manual (HCM). Traffic Operational conditions are defined in terms of Level of Service (LOS) and measured based upon approach delay as defined by the HCM. Signal timing data was obtained from Martin County Traffic Division and was used as input in the Synchro software.

2.7 LOS Criteria

FDOT maintains minimum acceptable operating Level of Service (LOS) targets for the State Highway System as well as the SIS. The term LOS is defined as the system of six designated ranges from “A” (best) to “F” (worst) used to evaluate roadway facility performance. FDOT Topic No. 525-000-006-c provides LOS targets for the State Highway System (SHS). The acceptable LOS standard from this document for the area of influence is LOS “D” for the intersections, freeway, and ramps.

2.8 Design Traffic

The development of the design traffic for this PTAR followed the procedure outlined in the 2019 Project Traffic Forecasting Handbook and is further outlined in Section 4 of this report.

3.0 Existing Conditions

Existing environmental features were reviewed to identify potential opportunities, impacts, and agency coordination required for projects along the corridor. Data for existing environmental features was collected using the Efficient Transportation

Decision Making (ETDM) Environmental Screening Tool (EST). The Geographic Information System (GIS) analysis lists the resources within various buffered distances (100-, 200-, 500- feet). The appropriate buffer for existing conditions discussion depends on the resource type. See **Figure 6** for a Project Location Map. The following is a description of the study area's various existing conditions elements.

3.1 Corridor Characteristics

SR 714/Monterey Road, which runs in a primarily east-west direction, is defined as an Urban Principal Arterial Other, west of SR 5/US 1/Federal Highway, and an Urban Minor Arterial east of SR 5. West of CR A1A, SR 714 is a four-lane facility with a two-way left- turn lane, while east of CR A1A it is a four-lane divided facility. The land use along SR 714 is primarily composed of commercial properties west of A1A. East of A1A, there are undeveloped natural areas north of SR 714 and on the south side is Witham Field General Airport/Stuart Jet Center. The Access Management Class for SR 714 is Class 6 west of A1A and Class 5 east of A1A. The Context Classification of SR 714 is C4 – Urban General, throughout the study area.

SR 5/US 1/SE Federal Highway runs in a north-south direction and is defined as an Urban Principal Arterial Other. SR 5 is a six-lane divided facility bounded by commercial properties within the study area. The Access Management Class for SR 5 is Class 5 and the Context Classification is C3C – Suburban Commercial.

CR A1A/SE Dixie Highway runs parallel to SR 5 within the study area and is not part of the State Highway System within the study area. The Florida East Coast Railroad runs along the west side of A1A.

3.2 Existing Land Use

The EST identified the predominant land uses to be centrally-assessed, public/semi-public, ROW, retail/office, and vacant non-residential line the project corridor. **Table 1** shows the breakdown of 2021 parcel-derived generalized land

uses within 500 feet. **Figure 7** displays the land use types present within a 500-foot buffer of the corridor.

Figure 6: Project Location Map



Table 1: Existing Land Use

Generalized Land Use	Acres	Percent
Centrally Assessed	2.48	8.84
Public/Semi-Public	16.37	58.32
ROW	6.64	23.66
Retail/Office	1.97	7.02
Vacant Non-Residential	0.62	2.21

Source: Florida Geographic Data Library, Land Use 2021

Figure 7: Land Use Map



3.3 Mobility Elements

Various mobility elements were identified within the study area.

Sidewalks are available along the north and south sides of SR 714/Monterey Road west of CR A1A. East of A1A, SR 714 provides sidewalk only along the north side of the roadway. SR 5/US 1/Federal Highway provides sidewalk along both sides of the roadway. CR A1A only provides sidewalk along the east side of the roadway within the study area.

Bicycle lanes are not provided along SR 714/Monterey Road within the study area, however they are provided approximately 500 feet east of the CR A1A intersection and further to the east. SR 5/US 1/Federal Highway provides bicycle lanes. CR A1A provides bicycle lanes only from approximately 600 feet south of the SR 714 intersection and further to the south.

The study area is served by two bus transit lines, provided by Martin County Public Transit. Bus Route 1 runs north-south along SR 5/ US 1/Federal Highway, from SE Cove Road to the south and Port St. Lucie to the north. Bus Route 3 circulates along various roadways throughout the Stuart area. **Appendix E** provides the maps and schedules for these routes.

3.4 Cultural Elements

Historic and Archaeological

Historic resources within the analysis's 500-foot buffer indicates that there is two previously recorded historic resource group within 500 feet of the corridor dating back to the late 1800s (FEC Railroad, Site ID: MT01450; Dixie Highway, Site ID: MT01621). Both of these historic features were evaluated by the State Historic Preservation Officer (SHPO) and are eligible for the National Register of Historic Places (NRHP). The project corridor is within the boundaries of five SHPO

Recreation

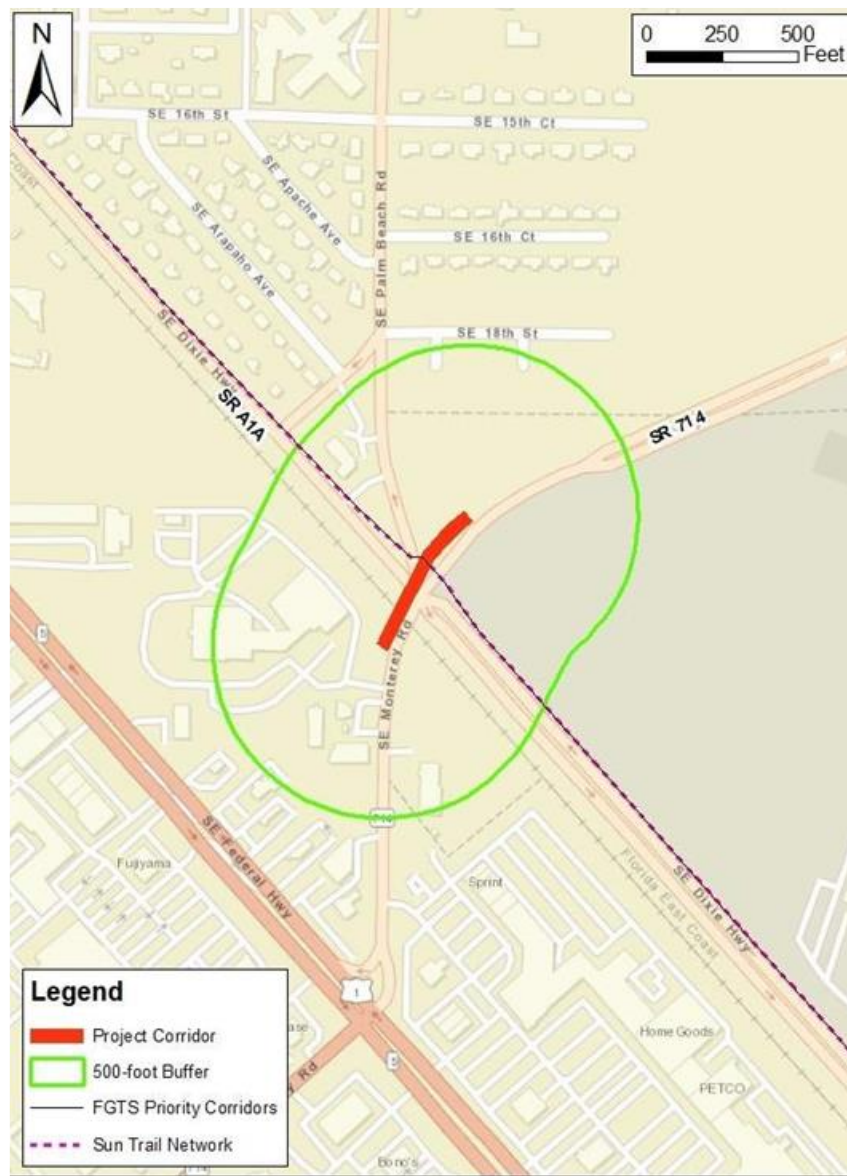
Figure 8: Historic Resources Map



Table 2: Recreational Land Uses

Name	Type	Owner / Manager
Florida Greenways and Trails System (FGTS) Priority Corridors		
East Coast Greenway – Martin Corridor	Trail	Martin County
Shared-Use Nonmotorized (SUN) Trails		
East Coast Greenway – Martin Corridor	Trail	Martin County

Figure 9: Recreational Areas Map

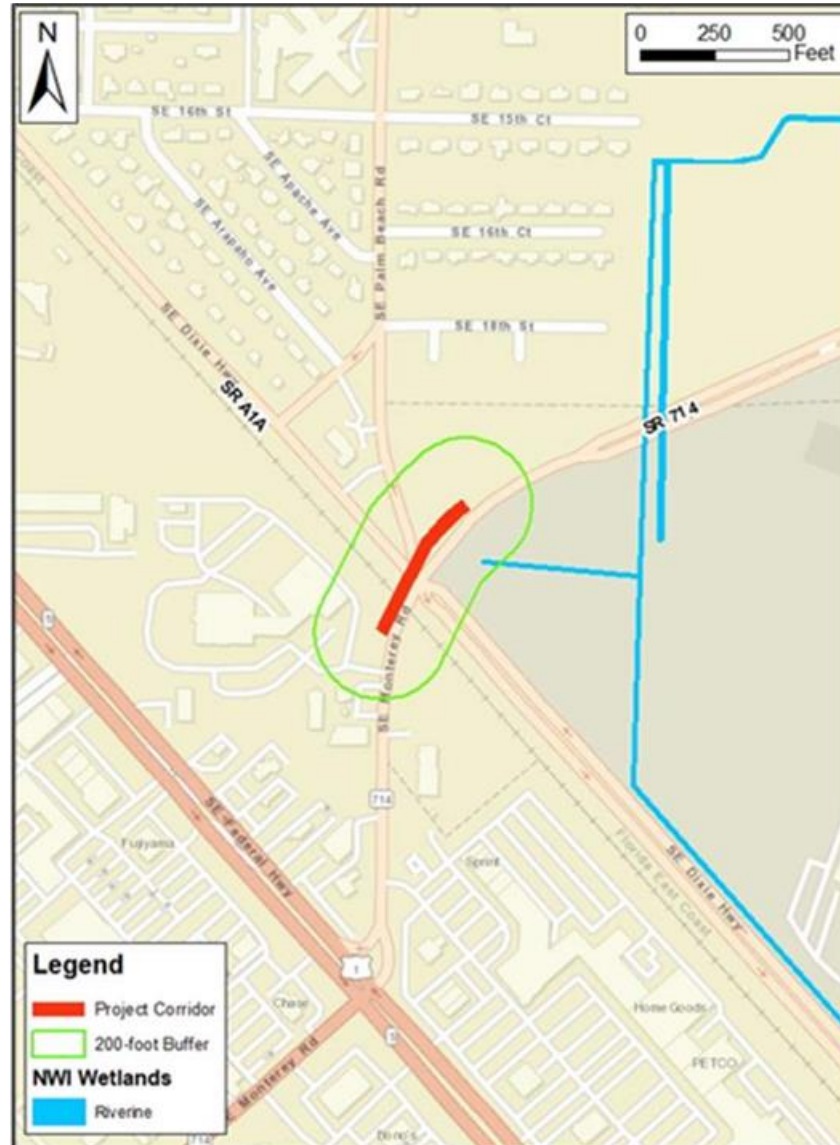


3.5 Natural and Biological Features

Wetlands and Other Surface Waters

Within 200 feet of the corridor, the National Wetlands Inventory (NWI) database reports a total of 0.02 acres [0.29%] of riverine wetlands. **Figure 10** shows the wetlands and surface waters present within a 200-foot buffer of the corridor.

Figure 10: Wetlands Map



3.6 Water Resources

The 200-foot project buffer occurs within one state adopted and EPA approved Total Maximum Daily Loads (TMDLs) area [St. Lucie River (South Fork) WBID:

3210]. Also present within the 200-foot project buffer is one Basin Management Action Plan (BMAP) area [St. Lucie - Loxahatchee], one Northern Everglades and Estuaries Protection Program (NEEP) Watershed [St. Lucie River Watershed], one SFWMD Rule 40E-4 Cumulative Impact Basin [St. Lucie], one verified Impaired Florida Waters [Tidal St. Lucie (WBID: 3210)], one Principal Aquifer System of the State of Florida [a surficial aquifer system], one Super Act Well [Community Water System (>100,000 gallons/day)]. Two FDEP Strategic Monitoring Plans (SMP) for Waterbodies [St. Lucie River (South Fork, WBID: 3210) and Willoughby Creek [WBID: 3208B]], and two SFWMD Arc Hydro Enhanced Database Watersheds [South Mid-Estuary and South Fork].

3.7 Flood Plains

According to the DFIRM (SFHA) 100 Year Flood Zones data, 6.82 [100.0%] of the 200-foot project buffer occur outside of the 100-year floodplain.

3.8 Protected Species and Habitat

The 200-foot project buffer occurs within the USFWS Consultation Area for crested caracara (*Caracara cheriway*), West Indian manatee (*Trichechus manatus*), piping plover (*Charadrius melodus*), red-cockaded woodpecker (*Leuconotopicus borealis*), Florida scrub jay (*Aphelocoma coerulescens*), everglades snail kite (*Rostrhamus sociabilis plumbeus*), and Florida bonneted bat (*Eumops floridanus*). It should be noted that the project corridor is within an Ecosystem Management Area [South Florida EMA (Loxahatchee/Hungryland Slough)]. The project is also located within one wood stork core foraging area.

According to the USFWS Information for Planning and Consultation species lists, federally listed species potentially occurring in the Martin county area include: four plants [beach jacquemontia (*Jacquemontia reclinata*), four-petal pawpaw (*Asimina tetramera*), lakela's mint (*Dicerandra immaculate*), Okeechobee gourd (*Cucurbita okeechobeensis*), and tiny polygala (*Polygala smallii*)], four mammals [Florida bonneted bat (*Eumops floridanus*), Florida panther (*Puma concolor coryi*),

southeastern beach mouse (*Peromyscus polionotus niveiventris*), west Indian manatee (*Trichechus manatus*), eight birds [Audubon's crested caracara (*caracara cheriway*), everglade snail kite (*Rostrhamus sociabilis plumbeus*), Florida grasshopper sparrow (*Ammodramus savannarum*), Florida scrub-jay (*Aphelocoma coerulescens*), ivory-billed woodpecker (*Campephilus principalis*), piping plover (*Charadrius melodus*), red-cockaded woodpecker (*Leuconotopicus borealis*), wood stork (*Mycteria americana*)], and four reptiles [eastern indigo snake (*Drymarchon couperi*), hawksbill sea turtle (*Eretmochelys imbricate*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*)]. Per the Florida Natural Areas Inventory (FNAI) database, two federal endangered/threatened species that have the potential to occur within the 200-foot buffer include: tropical ironwood (*Eugenia confusa*) and Johnson's seagrass (*Halophila johnsonii*).

3.9 Roadway Characteristics

SR 714/Monterey Road, which runs in a primarily east-west direction, is defined as an Urban Principal Arterial Other, west of SR 5/US 1/Federal Highway, and an Urban Minor Arterial east of SR 5. West of CR A1A, SR 714 is a four-lane facility with a two-way left-turn lane, while east of CR A1A it is a four-lane divided facility. The land use along SR 714 is primarily composed of commercial properties west of A1A. East of A1A, there are undeveloped natural areas north of SR 714 and on the south side is Witham Field General Airport/Stuart Jet Center. The Access Management Class for SR 714 is Class 6 west of A1A and Class 5 east of A1A. The Context Classification of SR 714 is C4 – Urban General, throughout the study area. The existing drainage conditions along SR 714/ Monterey Road is curb and gutter with a closed drainage system using curb inlets as collection points for storm water runoff. Roadway lighting is provided along the north side of the roadway, west of SR 5. Lighting is not provided along SR 714 east of SR5. Overhead utility lines run along the north side of SR 714, west of SR 5 and along the south side between SR 5 and CR A1A.

SR 5/US 1/SE Federal Highway runs in a north-south direction and is defined as an Urban Principal Arterial Other. SR 5 is a six-lane divided facility bounded by commercial properties within the study area. The Access Management Class for SR 5 is Class 5 and the Context Classification is C3C – Suburban Commercial. The existing drainage conditions along SR 5/ US 1/Federal Highway is curb and gutter with a closed drainage system using curb inlets as collection points for storm water runoff. Roadway lighting is provided along the west side of SR 5, north of SR 714. Overhead utility lines run along the west side of SR 5 through the study area.

CR A1A/SE Dixie Highway runs parallel to SR 5 within the study area and is not part of the State Highway System within the study area. The Florida East Coast (FEC) Railroad runs along the west side of A1A.

3.10 FEC Railroad Characteristics

The crossing of SR 714/Monterey Road over the FEC railroad provided the genesis for this study. Frequent rail crossings, which block traffic along SR 714 for extended periods of time have proved difficult for travel in the study area.

The FEC railway is a Class II regional railroad which runs from Miami to Jacksonville and is the exclusive rail provider for PortMiami, Port Everglades, and Port of Palm Beach. In the future, this section of the FEC will also include passenger rail service through the Brightline intercity passenger railroad service. According to the Federal Railroad Administration (FRA), this crossing currently serves a total of 21 through trains per day and four switching trains per day. It is anticipated that the new Brightline service will add another 15 trains per day.

As with all other railroads, the FEC is governed by the Code of Federal Regulations Title 49, Chapter II.

3.11 Witham Field Airport Characteristics

The Witham Field Airport is a public-use airport located to the east of CR A1A and south of SR 714/Monterey Road in Martin County. This airport is governed by the

Federal Aviation Administration (FAA) and the Code of Federal Regulations, Title 14. An Airport Layout Plan was previously developed for this airport and defines the existing approach slope for Runway 12 and the existing obstruction elevations, per FAA Part 77, along that slope. Based on this information, the expected elevations of any elevated structure in this project's proposed alternatives should not exceed the maximum allowable Part 77 elevations. However, based on the FAA's Notice Criteria Tool online application a Part 77 Notice Criteria should be filed with the FAA as part of the design process. **Appendix B** provides a copy of the Witham Field Airport Layout Plan, as well as a plan/elevation view of SR 714, east of CR A1A, with the airport's existing RPZ overlaid with survey data.

3.12 Existing Traffic Data

The existing traffic data collected in 2022, including the turning movement counts and the bi-directional approach counts are provided in the *Revised Traffic Forecasting Memo, December 2024* were used to perform the Existing Condition Analysis (Section 3.13) and included within **Appendix D**.

A summary of the existing year AADTs for the study area is provided in **Figure 11**.

Figure 11: 2022 Existing Year AADTs

Location	Collection Dates	Day 1	Day 2	Day 3	Average	Seasonal Factor	Axle Correction Factor	Calculated 2022 AADT ¹	2022 AADT ¹
US-1, north of SR 5A	9/13-9/15	38,533	37,817	38,054	38,135	1.09	0.99	41,000	41,000
US-1, south of SR 5A	9/13-9/15	37,015	36,504	35,421	36,313	1.09	0.99	39,000	39,000
US-1, south of SE Contractors Way ²	10/4-10/6	38,439	38,124	37,694	38,086	-	0.99	37,500	37,500
US-1, north of Monterey Road	9/13-9/15	37,658	39,009	37,757	38,141	1.05	0.99	39,500	39,500
US-1, south of Monterey Road	9/13-9/15	39,834	39,405	39,380	39,540	1.05	0.99	41,000	41,000
US-1, between Monterey Extension and Luckhardt St ²	10/4-10/6	43,053	43,870	43,660	43,528	-	0.99	43,000	43,000
US-1, south of SE Indian Street	9/13-9/15	44,814	44,511	45,691	45,005	1.05	0.99	47,000	47,000
US-1, north of SE Indian Street	9/13-9/15	44,804	44,512	44,604	44,640	1.05	0.99	46,500	46,500
CR A1A, north of SR 5A ^{2,3}	9/20-9/22	8,731	8,874	8,817	8,807	-	0.99	8,700	9,000
CR A1A, north of SE Rail Road Ave/Decker Ave	9/13-9/15	7,954	8,205	8,169	8,109	1.09	0.99	8,700	8,700
CR A1A, south of SE Rail Road Ave/Decker Ave	9/13-9/15	7,383	7,709	7,886	7,659	1.09	0.99	8,200	8,200
CR A1A, north of Monterey Road	9/13-9/15	12,521	12,625	11,925	12,357	1.09	0.99	13,500	13,500
CR A1A, south of Monterey Road	9/13-9/15	18,174	18,141	17,964	18,093	1.09	0.99	19,500	19,500
CR A1A, north of SE Aviation way ²	10/4-10/6	18,125	17,700	17,874	17,900	-	0.99	17,500	17,500
CR A1A, north of SE Indian Street	9/13-9/15	18,483	18,220	18,393	18,365	1.09	0.99	19,500	19,500
CR A1A, south of SE Indian Street	9/13-9/15	19,455	19,032	18,481	18,989	1.09	0.99	20,500	20,500
SR 76/ Kanner Highway, north of Monterey Road	9/13-9/15	32,900	32,121	31,867	32,296	1.05	0.97	33,000	33,000
SR 76/ Kanner Highway, south of Monterey Road	9/13-9/15	25,832	25,605	25,134	25,524	1.05	0.97	26,000	26,000
Monterrey Road, west of SR 76/Kanner Highway	9/13-9/15	32,122	31,559	31,309	31,663	1.05	0.98	32,500	32,500
Monterrey Road, east of SR 76/Kanner Highway	9/13-9/15	25,569	26,052	25,063	25,561	1.05	0.98	26,500	26,500
Monterrey Road, west of US-1	9/13-9/15	19,985	20,228	20,080	20,098	1.05	0.98	20,500	20,500
Monterrey Road, east of US-1	9/13-9/15	25,544	25,349	25,316	25,403	1.09	0.98	27,000	27,000
Monterrey Road, east of CR A1A	9/20-9/22	21,561	21,831	22,061	21,818	1.08	0.98	23,000	23,000
SE Indian Street, west of US-1	9/13-9/15	27,736	27,977	27,852	27,855	1.05	0.98	28,500	28,500
SE Indian Street, east of US-1	9/13-9/15	23,406	23,268	23,416	23,363	1.09	0.98	25,000	25,000
SE Indian Street, west of CR A1A	9/13-9/15	25,411	25,207	25,058	25,225	1.09	0.98	27,000	27,000
SE Indian Street, east of CR A1A	9/13-9/15	9,609	9,378	9,225	9,404	1.09	0.98	10,000	10,000
Luckhardt St, east of US-1 ³	9/20-9/22	524	492	416	477	1.08	0.98	500	1,000
Luckhardt St, west of US-1	9/20-9/22	3,511	3,648	2,951	3,370	1.03	0.98	3,400	3,400
SE Aviation way, east of CR A1A	9/20-9/22	1,859	1,794	1,795	1,816	1.08	0.98	1,900	1,900
SE Airport Road, east of CR A1A	9/20-9/22	1,805	2,044	1,930	1,926	1.08	0.98	2,000	2,000
Grumman Boulevard, east of US-1 ³	9/20-9/22	420	618	438	492	1.08	0.98	500	4,500
Monterey Extension, east of Monterey Road	9/20-9/22	7,869	7,674	6,699	7,414	1.03	0.98	7,500	7,500
SE Christie Way, east of CR A1A	9/20-9/22	5,685	5,512	5,186	5,461	1.08	0.98	5,800	5,800
SE Central Parkway, east of US-1	9/20-9/22	1,011	1,316	1,302	1,210	1.08	0.98	1,300	1,300
SE Central Parkway, west of US-1	9/20-9/22	4,589	4,311	4,266	4,389	1.03	0.98	4,400	4,400
Decker Ave, west of CR A1A	9/13-9/15	739	813	729	760	1.09	0.98	800	800
SE Rail Road Ave, east of CR A1A	9/13-9/15	185	157	171	171	1.09	0.98	200	200
SE Palm Beach Rd, E of US-1	9/20-9/22	5,298	5,409	5,268	5,325	1.03	0.98	5,400	5,400
SR 5A, east of US-1	9/13-9/15	2,826	2,879	2,891	2,865	1.09	0.98	3,100	3,100
SE Contractors Way, east of US-1		1,409	1,158	1,287	1,285	1.08	0.98	1,400	1,400
Driveway (North leg) at Monterey Road at Monterey Extension ^{4,5}									450
North Leg (SR5A) at CR A1A at SR 5A (West) ^{4,5}									900
East Leg at CR A1A at SR 5A (West) ^{4,5}									1,900
Driveway (West Leg) at CR A1A at SR 5A (West) ^{4,5}									150
North Leg (CR A1A) at CR A1A at SR 5A (East) ^{4,5}									8,100

Note:

- 1) Rounded
- 2) AADTs are calculated from Classification Counts
- 3) AADTs are adjusted to be consistent with TMC peak hour counts after investigation suggests lower tube count than expected.
- 4) AADTs are calculated from peak hour turning movements with standard K factor, 0.09
- 5) More detailed Calculations are included in Appendix A

3.13 Existing Year 2022 – Operational Analysis

A detailed operational analysis for the Existing Year 2022 was performed for the 17 study area intersections previously discussed for the AM and PM Peak Hour periods.

1. SR 714/Monterey Road at SR 76/Kanner Highway (Signalized)
2. SR 714/Monterey Road at SE Monterey Road Extension (Signalized)
3. SR 714/Monterey Road at US 1 (Signalized)
4. SR 714/Monterey Road at SR A1A (Signalized)
5. SR A1A at Decker Avenue/Railroad Avenue (Unsignalized)
6. SR A1A at SE Christie Way (Signalized)
7. SR A1A at SE Aviation Way (Signalized)
8. SR A1A at Airport Road (Signalized)
9. SR A1A at SR 5A (Unsignalized)
10. SR A1A at Indian Street (Signalized)
11. US 1 at SR 5A (Unsignalized)
12. US 1 at SE Contractors Way (Unsignalized)
13. US 1 at SE Central Parkway (Signalized)
14. US 1 at SE Monterey Road Extension/Grumman Boulevard (Signalized)
15. US 1 at Luckhardt Street (Signalized)
16. US 1 at Indian Street (Signalized)
17. SR 5A at SR A1A (Unsignalized)
22. SR 714/Monterey Road at SE Willoughby Boulevard (added)
23. SR 714/Monterey Road at SE Ray's Way (added)

Existing intersections 22 and 23 were added to the analysis after the start of the project and are out of numerical order due to locations 18 through 21 having been previously applied to new intersections in the Synchro analysis. Existing data for these two locations was provided by the Willoughby Boulevard PD&E team.

Synchro 12 was used for the operational analysis to estimate vehicular delays and level of service (LOS), as well as to estimate the existing turn bay queue lengths. Delay and LOS Tables are provided in **Table 3**, while a queue summary is provided in **Table 4** on the following pages. Existing Condition Synchro output reports are provided in **Appendix F**.

For the existing conditions analysis, study intersections were analyzed for the AM and PM Peak Hour periods. As shown in the summary tables, intersections 1 (100) - SR 714/Monterey Road at SR 76/Kanner Highway (Signalized), 11 (1100) - US 1 at SR 5A (Unsignalized), 12 (1200) - US 1 at SE Contractors Way (Unsignalized), and 16 (1600) - US 1 at Indian Street (Signalized) experienced the highest levels of delay with the overall intersection exceeding LOS D.

Intersection 4 (400) - SR 714/Monterey Road at CR A1A/SE Dixie Highway, which is the study's key intersection was found to operate at LOS D in both the AM and PM peak hours. However, several approaches and movements were shown to exceed LOS D. During the AM peak hour, the southbound right-turn movement demonstrated delays of approximately 107 seconds, LOS F, which caused the southbound approach to experience LOS E conditions. The PM peak hour experienced higher levels of delay. The westbound left-turn and through/shared right movements showed delays of approximately 60 seconds each, LOS E, while all of the southbound movements experienced LOS E or worse, and an overall approach of LOS E.

Table 4 provides a summary of the estimated 95th percentile turn-bay queue lengths versus the existing available storage length. As shown, the majority of the study's intersections have at least one turn-bay that experiences vehicular spill back during the AM or PM peak hours. Intersection 4 (400) - SR 714/Monterey Road at SR A1A (Signalized) eastbound left-turn bay experiences queues of approximately 161 feet in the AM and 177 feet in the PM, while the current turn-bay is 100 feet long.

Table 3: 2022 Existing Year AM and PM Peak Hour Synchro Output

	Movement/ Approach	Existing 2022			
		AM Peak Period		PM Peak Period	
		Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 100 SR 714/Monterey Road at SR 76/Kanner Highway (Signalized)	EBL	53.1	D	79.4	E
	EBT	39.4	D	38	D
	EBR	29.2	C	32.9	C
	<i>EB Approach</i>	43.9	D	53.4	D
	WBL	78	E	81.5	F
	WBT	70.4	E	71.3	E
	WBR	71.3	F	71	E
	<i>WB Approach</i>	72.7	E	72.9	E
	NBL	93.1	F	90.1	F
	NBT	69.1	E	55.1	E
	NBR	82.6	F	59	E
	<i>NB Approach</i>	77	E	63.5	E
	SBL	82.6	F	46.3	D
	SBT	65.2	E	61.9	E
	SBR	17.2	B	237.5	F
	<i>SB Approach</i>	60	E	129	F
	Overall Intersection	59.4	E	82.4	F
Intersection 200 SR 714/Monterey Road at Monterey Road Extension (Signalized)	EBL	20.4	C	65.3	E
	EBT	21.7	C	55.3	E
	<i>EB Approach</i>	21.6	C	55.3	E
	WBT	33	C	59.9	E
	WBR	32.8	C	59.7	E
	<i>WB Approach</i>	32.9	C	59.8	E
	NBL	47.5	D	73.2	E
	NBT	0	A	0	A
	NBR	37	D	50.1	D
	<i>NB Approach</i>	46.9	D	72.6	E
	Overall Intersection	28.3	C	60.2	E
Intersection 300 SR 714/Monterey Road at SR 5/US 1 (Signalized)	EBL	35	C	94.3	F
	EBT	55.5	E	75.4	E
	EBR	20.3	C	64.2	E
	<i>EB Approach</i>	50.7	D	80.4	F
	WBL	60.7	E	71.9	E
	WBT-R	46.9	D	65.4	E
	<i>WB Approach</i>	51.9	D	67.4	E
	NBL	55.2	E	52.9	D
	NBT	36.1	D	58.8	E
	NBR	41.1	D	46.4	D
	<i>NB Approach</i>	38.7	D	56.7	E
	SBL	69.3	E	49.8	D
	SBT	35.2	D	40.5	D
	SBR	12.1	B	33	C
	<i>SB Approach</i>	36.5	D	41	D
	Overall Intersection	42.4	D	57.5	D

Table 3: 2022 Existing Year AM and PM Peak Hour Synchro Output, Cont'd

	Movement/ Approach	Existing 2022			
		AM Peak Period		PM Peak Period	
		Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 400 SR 714/Monterey Road at CRA1A/SE Dixie Highway (Signalized)	EBL	10.5	B	19	B
	EBT-R	21.6	B	13.3	B
	<i>EB Approach</i>	18.3	B	15.2	B
	WBL	35.5	D	59.9	E
	WBT-R	47.4	D	60	E
	<i>WB Approach</i>	44.4	D	60	E
	NBL	39.6	D	59.4	E
	NBT	39.3	D	47.8	D
	NBR	54.5	D	55.8	E
	<i>NB Approach</i>	48.1	D	50.3	D
	SBL	40.3	D	71.5	E
	SBT	43.5	D	58.5	E
	SBR	107.4	F	94.2	F
	<i>SB Approach</i>	75.9	E	71.3	E
	Overall Intersection	43.6	D	49.6	D
Intersection 500 SR A1A at Decker Avenue/SE Railroad Avenue (Unsignalized)	EB	12	B	13.1	B
	<i>EB Approach</i>	12	B	13.1	B
	WB	15.2	C	16.3	C
	<i>WB Approach</i>	15.2	C	16.3	C
	NB	0.4	A	0.3	A
	<i>NB Approach</i>	0.4	A	0.3	
	SB	0.1	A	0	A
	<i>SB Approach</i>	0.1	A	0	A
	Overall Intersection	15.2	C	16.3	C
Intersection 600 SR A1A at Christie Way (Signalized)	WBL	27.1	C	31	C
	WBR	15	B	14.2	B
	<i>WB Approach</i>	27	C	30.8	C
	NBT	12.3	B	12.1	B
	<i>NB Approach</i>	12.3	B	12.1	B
	SBT	10.8	B	14.8	B
	<i>SB Approach</i>	10.8	B	14.8	B
	Overall Intersection	18	B	20.5	C
Intersection 700 SR A1A at SE Aviation Way (Signalized)	WBL	69.7	E	79.6	E
	WBT	0	A	0	A
	WBR	65.2	E	83.8	F
	<i>WB Approach</i>	68.3	E	81.8	F
	NBL	0	A	0	A
	NBT	5.6	A	4.1	A
	NBR	5.6	A	4.1	A
	<i>NB Approach</i>	5.6	A	4.1	A
	SBL	3.2	A	2.5	A
	SBT	0.1	A	0.2	A
	SBR	0	A	0.2	A
	<i>SB Approach</i>	0.4	A	0.2	A
	Overall Intersection	6.9	A	6.5	A

Table 3: 2022 Existing Year AM and PM Peak Hour Synchro Output, Cont'd

	Movement/ Approach	Existing 2022			
		AM Peak Period		PM Peak Period	
		Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 800 SR A1A at SE Airport Road (Signalized)	WBL	70.8	E	77.9	E
	WBR	76.3	E	90.7	F
	<i>WB Approach</i>	74.2	E	86.3	F
	NBT	24.9	C	32.2	C
	NBR	15.3	B	20.1	C
	<i>NB Approach</i>	24.7	C	32.1	C
	SBL	10.2	B	11.2	B
	SBT	1.3	A	1.8	A
	<i>SB Approach</i>	1.7	A	1.8	A
	Overall Intersection	16.7	B	19.7	B
Intersection 900 SR A1A between US 1 and A1A (Unsignalized)	EBL	14.5	B	16.5	C
	EBR	14.5	B	16.5	C
	<i>EB Approach</i>	14.5	B	16.5	C
	NBL	7.9	A	8.2	A
	NBT	0	A	0	A
	<i>NB Approach</i>	0.7	A	1.1	A
	SBT	0.0	A	0.0	A
	SBR	0.0	A	0.0	A
	<i>SB Approach</i>	0	A	0	
	Overall Intersection	14.5	B	16.5	C
Intersection 1000 SR A1A at SE Indian Street (Signalized)	EBL	62.8	E	52.5	D
	EBT	43.4	D	43.2	D
	EBR	39.1	F	184	F
	<i>EB Approach</i>	50.3	D	98.1	F
	WBL	45.7	D	55.9	E
	WBTR	59.8	E	69.9	E
	<i>WB Approach</i>	58	E	67.9	E
	NBL	21.7	C	28.8	C
	NBTR	18.5	B	15	B
	<i>NB Approach</i>	19.8	B	21.6	C
	SBL	27.8	C	22.2	C
	SBT	28.6	C	25	C
	SBR	41.6	D	15.2	B
	<i>SB Approach</i>	34.4	C	20.2	C
	Overall Intersection	39.3	D	53.3	D
Intersection 1100 US 1 at SR 5A (Unsignalized)	EBR	0.0	A	0.0	A
	<i>EB Approach</i>	0	A	0	A
	WBL	87.6	F	651.2	F
	WBR	14.5	B	31.7	D
	<i>WB Approach</i>	39.5	E	225.3	F
	NBL	0	A	0	A
	NBTR	0	A	0	A
	<i>NB Approach</i>	0	A	0	A
	SBL	15.3	C	35.9	E
	SBT	0.0	A	0	A
	<i>SB Approach</i>	0.6	A	1.1	A
	Overall Intersection	39.5	E	225.3	F

Table 3: 2022 Existing Year AM and PM Peak Hour Synchro Output, Cont'd

	Movement/ Approach	Existing 2022			
		AM Peak Period		PM Peak Period	
		Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 1200 US 1 at Decker Avenue (Unsignalized)	WBL	37.8	E	96	F
	WBR	14.5	B	24.1	C
	<i>WB Approach</i>	21.3	C	42.5	E
	NBT	0.0	A	0.0	A
	NBR	0.0	A	0.0	A
	<i>NB Approach</i>	0	A	0	A
	SBL	15.2	C	31.2	D
	SBT	0.0	A	0.0	A
	<i>SB Approach</i>	0	A	0.1	A
	Overall Intersection	21.3	C	42.5	E
Intersection 1300 US 1 at Central Parkway (Signalized)	EBL	297.3	F	957.8	F
	EBT	0	A	0	A
	EBR	40.5	D	48.4	D
	<i>EB Approach</i>	155.6	F	489.2	F
	WBL	63.7	E	84.1	F
	WBT	0	A	0	A
	WBR	37.9	D	44.3	D
	<i>WB Approach</i>	59	E	68	E
	NBL	37	D	16.6	B
	NBT	0.5	A	0.5	A
	NBR	0.9	A	0.9	A
	<i>NB Approach</i>	3	A	1.9	A
	SBL	25.2	C	15.2	B
	SBT	34.1	C	22.5	C
	SBR	23.3	B	17.4	B
	<i>SB Approach</i>	33.5	C	22.1	C
	Overall Intersection	29.1	C	45.8	D
Intersection 1400 US 1 at Monterey Road Extension/Grumman Blvd (Signalized)	EBL	45.8	D	49.1	D
	EBT	47	D	52.1	D
	EBR	73.8	E	90.3	F
	<i>EB Approach</i>	65.9	E	76.4	E
	WBL	47.9	D	50.8	D
	WBT	0	A	0	A
	WBR	50.1	D	52.5	D
	<i>WB Approach</i>	49	D	51.3	D
	NBL	40.1	D	37.8	D
	NBT	27.9	C	52.3	D
	NBR	0	A	0	A
	<i>NB Approach</i>	28.9	C	50.7	D
	SBL	18.4	B	48.9	D
	SBT	0.6	A	5.9	A
	SBR	0	A	0	A
	<i>SB Approach</i>	0.9	A	7	A
	Overall Intersection	19.6	C	38.3	D

Table 3: 2022 Existing Year AM and PM Peak Hour Synchro Output, Cont'd

	Movement/ Approach	Existing 2022		Existing 2022	
		AM Peak Period		PM Peak Period	
		Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 1500 US 1 at Luckhardt Street (Signalized)	EBL	65.1	E	71.6	E
	EBT	0	A	0	A
	EBR	57.7	E	59.6	E
	<i>EB Approach</i>	63.7	E	69	E
	WBL	58.8	E	63	E
	WBT	0	A	0	A
	WBR	56.6	E	58.2	E
	<i>WB Approach</i>	57.9	E	61.3	E
	NBL	17.1	B	25.1	C
	NBT	8.4	A	0.4	A
	NBR	6.2	A	0	A
	<i>NB Approach</i>	8.6	A	1.8	A
	SBL	28.5	C	26.3	C
	SBT	13.2	B	26.4	C
	SBR	8.2	A	16.6	B
	<i>SB Approach</i>	13.2	B	26.2	C
	Overall Intersection	13.8	B	17.9	B
Intersection 1600 US 1 at SE Indian Street (Signalized)	EBL	57.9	E	85.1	F
	EBT	45.9	D	67.4	E
	EBR	50.2	D	68.4	E
	<i>EB Approach</i>	49.7	E	72.3	E
	WBL	60.3	E	74.9	E
	WBT	49.2	D	78.3	E
	WBR	45.7	D	69.3	E
	<i>WB Approach</i>	50.8	D	75.9	E
	NBL	53.9	D	57.4	E
	NBT	41.6	D	58.4	E
	NBR	39.2	D	45.3	D
	<i>NB Approach</i>	44.3	D	57	E
	SBL	44.9	D	42.2	D
	SBT	41.9	D	46.7	D
	SBR	35.9	D	39.9	D
	<i>SB Approach</i>	41.8	D	44.9	D
	Overall Intersection	45.7	D	59	E
Intersection 1700 SR 5A between US 1 and A1A (Unsignalized)	EB	10.4	B	10.2	B
	<i>EB Approach</i>	10.4	B	10.2	B
	WB	9.5	A	9.7	A
	<i>WB Approach</i>	9.5	A	9.7	A
	NB	0.3	A	0.1	A
	<i>NB Approach</i>	0.3	A	0.1	A
	SB	0.0	A	0.0	A
	<i>SB Approach</i>	0	A	0.1	A
	Overall Intersection	10.4	B	10.2	B

Table 3: 2022 Existing Year AM and PM Peak Hour Synchro Output, Cont'd

	Movement/ Approach	Existing 2022		Existing 2022	
		AM Peak Period		PM Peak Period	
		Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 2200 SR 714/Monterey Rd at Willoughby Blvd (Signalized)	EBL	31.9	C	39.7	D
	EBTR	130.9	F	68	E
	<i>EB Approach</i>	130.3	F	67.4	E
	WBL	68.5	E	36.5	D
	WBTR	33.2	C	27.4	C
	<i>WB Approach</i>	39.5	D	29.2	C
	NBL	75.7	E	74.3	E
	NBT	75	E	74.8	E
	NBR	67.2	E	63.1	E
	<i>NB Approach</i>	70.4	E	68.7	E
	SBLTR	41.4	D	79.6	E
	<i>SB Approach</i>	41.4	D	79.6	E
	Overall Intersection	91.1	F	50.3	D
Intersection 2300 SR 714/Monterey Rd at SE Ray's Way (Unsignalized)	EBL	10.2	B	15.1	C
	EBT	0	A	0	A
	EBR	-	-	-	-
	<i>EB Approach</i>	0.7	A	3.3	A
	WBT	0	A	0	A
	WBTR	0	A	0	A
	<i>WB Approach</i>	0	A	0	A
	SBL	14.7	B	35	E
	SBR	0	A	0	A
	<i>SB Approach</i>	14.7	B	35	E
	Overall Intersection	14.7	B	35	E

Table 4: 2022 Existing Year AM and PM Peak Hour Queue Lengths

Intersection	Time Period	Existing 95th Percentile Queue Length (feet)							
		Eastbound		Westbound		Northbound		Southbound	
		L	R	L	R	L	R	L	R
Intersection 100 SR 714/Monterey Road at SR 76/Kanner Highway (Signalized)	AM Peak	#526	75	#142	na	#321	na	#392	93
	PM Peak	#360	40	139	na	#403	na	198	#544
	Existing Storage (feet)	450	180	330	na	620	na	380	460*
Intersection 200 SR 714/Monterey Road at Monterey Road Extension (Signalized)	AM Peak	m0	na	na	na	116	m1	0	0
	PM Peak	m1	na	na	na	426	m0	19	0
	Existing Storage (feet)	120	na	na	na	320	>320	na	na
Intersection 300 SR 714/Monterey Road at SR 5/US 1 (Signalized)	AM Peak	47	0	#322	na	55	130	108	28
	PM Peak	#278	29	m236	na	131	20	#181	31
	Existing Storage (feet)	330	530	250	na	460	260	380	260
Intersection 400 SR 714/Monterey Road at CRA1A/SE Dixie Highway (Signalized)	AM Peak	161	na	120	na	73	161	m41	104
	PM Peak	177	na	#256	na	116	226	m63	107
	Existing Storage (feet)	100	na	720	na	310	350	300	500
Intersection 600 SR A1A at Christie Way (Signalized)	AM Peak	na	na	242	4	na	na	na	na
	PM Peak	na	na	354	6	na	na	na	na
	Existing Storage (feet)	na	na	200	200	na	na	na	na
Intersection 700 SR A1A at SE Aviation Way (Signalized)	AM Peak	na	na	na	na	na	na	3	na
	PM Peak	na	na	na	na	na	na	3	na
	Existing Storage (feet)	na	na	na	na	na	na	250	na
#: 95th percentile volume exceeds capacity, queue maybe longer, m: Volume for 95th queue is metered by upstream signal, Storage length noted above is turn pocket length or link distance per lane to adjacent signalized intersection, *: Lane drop.									

Table 4: 2022 Existing Year AM and PM Peak Hour Queue Lengths, Cont'd

Intersection	Time Period	95th Percentile Queue Length (feet)							
		Eastbound		Westbound		Northbound		Southbound	
		L	R	L	R	L	R	L	R
Intersection 800 SR A1A at SE Airport Road (Signalized)	AM Peak	na	na	26	23	na	0	m6	na
	PM Peak	na	na	55	43	na	m0	m0	na
	Existing Storage (feet)	na	na	150	400	na	270	240	na
Intersection 900 SR A1A between US 1 and A1A (Unsignalized)	AM Peak	31	na	na	na	na	na	na	na
	PM Peak	27	na	na	na	na	na	na	na
	Existing Storage (feet)	40	na	na	na	na	na	na	na
Intersection 1000 SR A1A at SE Indian Street (Signalized)	AM Peak	252	70	58	na	313	na	53	134
	PM Peak	256	132	74	na	314	na	32	27
	Existing Storage (feet)	310	220	220	na	200	na	150	200
Intersection 1100 US 1 at SR 5A (Unsignalized)	AM Peak	na	na	na	63	na	na	8	na
	PM Peak	na	na	na	362	na	na	10	na
	Existing Storage (feet)	na	na	na	200	na	na	240	na
Intersection 1200 US 1 at Decker Avenue (Unsignalized)	AM Peak	na	na	12	3	na	na	0	na
	PM Peak	na	na	24	3	na	na	1	na
	Existing Storage (feet)	na	na	150	150	na	na	130	na
Intersection 1300 US 1 at Central Parkway (Signalized)	AM Peak	na	9	na	0	m16	na	17	14
	PM Peak	na	62	na	0	m37	na	9	5
	Existing Storage (feet)	na	200	na	200	300	na	280	270
#: 95th percentile volume exceeds capacity, queue maybe longer, m: Volume for 95th queue is metered by upstream signal, Storage length noted above is turn pocket length or link distance per lane to adjacent signalized intersection, *: Lane drop.									

Table 4: 2022 Existing Year AM and PM Peak Hour Queue Lengths, Cont'd

Intersection	Time Period	95th Percentile Queue Length (feet)							
		Eastbound		Westbound		Northbound		Southbound	
		L	R	L	R	L	R	L	R
Intersection 1400 US 1 at Monterey Road Extension/ Grumman Blvd (Signalized)	AM Peak	m57	m99	23	na	107	1	m3	m0
	PM Peak	m175	155	#232	na	150	2	m14	m0
	Existing Storage (feet)	200	240	220	na	300	260	350	200
Intersection 1500 US 1 at Luckhardt Street (Signalized)	AM Peak	164	na	na	na	30	0	m10	6
	PM Peak	256	na	na	na	m51	m0	m15	m0
	Existing Storage (feet)	180	na	na	na	420	200	370	290
Intersection 1600 US 1 at SE Indian Street (Signalized)	AM Peak	149	72	125	58	#253	63	191	61
	PM Peak	187	70	177	53	#395	58	#250	66
	Existing Storage (feet)	380	300	360	280	400	880	430	500
#: 95th percentile volume exceeds capacity, queue maybe longer, m: Volume for 95th queue is metered by upstream signal, Storage length noted above is turn pocket length or link distance per lane to adjacent signalized intersection, *: Lane drop.									

3.14 Safety Analysis

Historical crash data was obtained from Signal Four Analytics database, a statewide interactive, web-based geospatial crash analytical tool developed and hosted by the University of Florida GeoPlan Center to perform a safety analysis. This safety analysis was conducted to determine where crashes frequently occur and identify potential priority improvement locations. The most recent 5-year crash data was downloaded and reviewed for the entire project's study limits between January 1, 2019, and December 31, 2023. Crashes that occurred outside the project limits were removed from the analysis and the crash severity level was verified. Historical crash data's attributes, patterns, and trends were evaluated to determine and better understand the causes and results of crashes. The crash data was reviewed by segment and by intersection and results are summarized in tabular format for study area. **Figure 12** depicts the study area, including six (6) segments and seventeen (17) intersections. This data was previously provided as part of the *Qualitative Safety Analysis Report, January 2025*. This report is provided in **Appendix G**.

Figure 12: Study Area and Target Intersections



The intersection of SR 714/Monterey Road and CR A1A, which is the focus of this study for Alternative 1, will be analyzed in later sections of this report as part of the predictive crash analysis. Therefore the historical crash data for that intersection is provided here.

Intersection 4: SR 714/Monterey Rd & CR A1A/SE Dixie Hwy

A total of 168 crashes were documented at Intersection 4 – SR 714/Monterey Road and CR A1A, for the 5-year period, and shown in the crash diagram provided in Figure 13 below, and a summary of the crash analysis is provided below:

- 135 (80.4%) were Property Damage Only crashes
- 0 (0%) fatal crash
- 29 (17.6%) were at night/dusk/dawn
- 22 (13.1%) were on wet pavement
- 24 (14.3%) occurred between 6:00 AM to 9:00 AM
- 48 (28.6%) occurred between 3:00 PM to 6:00 PM
- 168 crashes occurred from January 1, 2019 to December 31, 2023.

Figure 13: Intersection 4 – Crash Diagram

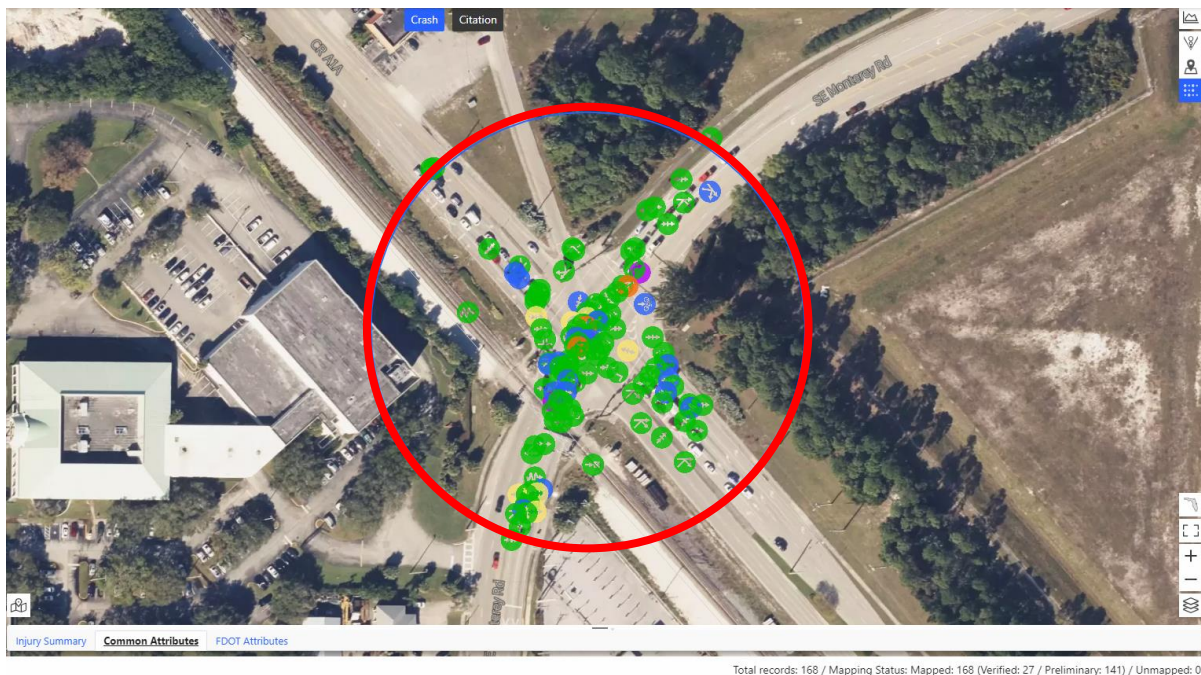


Figure 15 provides a summary of the annual crash totals, while Figure 16 shows the breakdown of the crash severity. **Table 5** provides the crash summaries. Additionally, Figure 17 provides the crash histograms.

Figure 14: Total Crashes in 5 Years – Intersection 4

Location	2019	2020	2021	2022	2023	Total
SE Monterey Rd & CR A1A	27	29	29	38	45	168

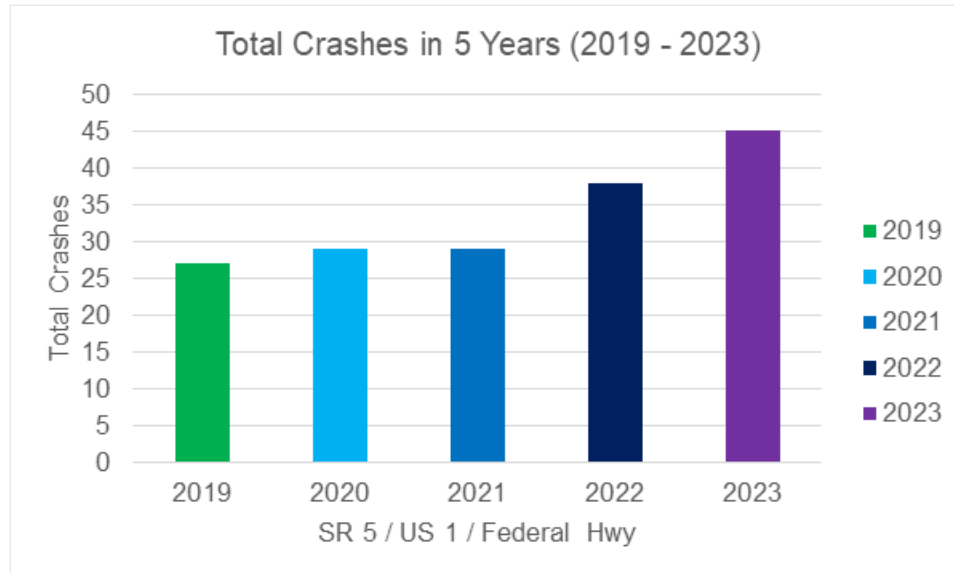


Figure 15: Crash Severity – Intersection 4

Location	PDO	Injury	Fatal	Total
SE Monterey Rd & CR A1A	135	33	0	168

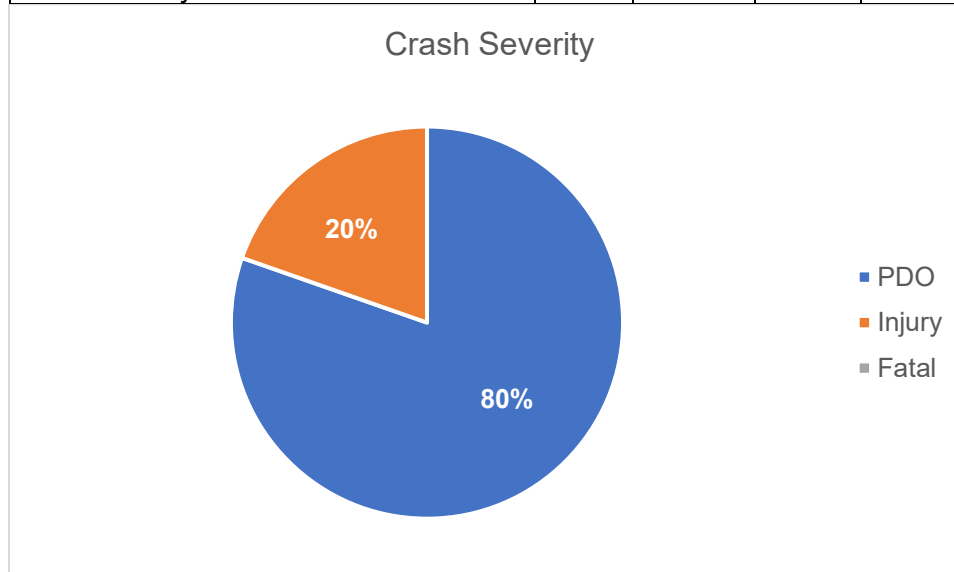


Table 5: Crash Summary – Intersection 4

SE Monterey Rd & CR A1A		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year							
		2019	2020	2021	2022	2023			
CRASH TYPE	Rear End	12	11	17	15	28	83	17	49.4%
	Head On	0	0	0	0	0	0	0	0.0%
	Angle	2	5	3	2	3	15	3	8.9%
	Left Turn	2	1	0	3	0	6	1	3.6%
	Right Turn	0	1	1	0	0	2	0	1.2%
	Sideswipe	2	3	1	9	9	24	5	14.3%
	Backed Into	1	0	0	0	0	1	0	0.6%
	Pedestrian	0	5	1	3	0	9	2	5.4%
	Bicycle	8	2	6	3	1	20	4	11.9%
	Fixed Object	0	0	0	2	2	4	1	2.4%
	Other Non Fixed Object	0	0	0	0	0	0	0	0.0%
	Non-Collisions	0	0	0	1	1	2	0	1.2%
	Others	0	1	0	0	1	2	0	1.2%
	Total Crashes	27	29	29	38	45	168	34	100.0%
SEVERITY	PDO Crashes	22	26	21	30	36	135	27	80.4%
	Fatal Crashes	0	0	0	0	0	0	0	0.0%
	Injury Crashes	5	3	8	8	9	33	7	19.6%
LIGHTING CONDITIONS	Daylight	25	22	25	27	40	139	28	82.7%
	Dusk	1	2	2	1	1	7	1	4.2%
	Dawn	0	0	0	1	0	1	0	0.6%
	Dark	1	5	2	9	4	21	4	12.5%
	Unknown	0	0	0	0	0	0	0	0.0%
SURFACE CONDITIONS	Dry	20	29	26	29	42	146	29	86.9%
	Wet	7	0	3	9	3	22	4	13.1%
	Others	0	0	0	0	0	0	0	0.0%
MONTH OF YEAR	January	4	5	3	3	5	20	4	11.9%
	February	1	0	4	2	5	12	2	7.1%
	March	4	3	2	7	2	18	4	10.7%
	April	1	0	2	1	4	8	2	4.8%
	May	3	3	0	2	2	10	2	6.0%
	June	3	2	4	5	4	18	4	10.7%
	July	2	0	0	1	7	10	2	6.0%
	August	2	4	2	2	3	13	3	7.7%
	September	0	1	4	1	6	12	2	7.1%
	October	0	2	3	8	3	16	3	9.5%
	November	4	3	1	1	1	10	2	6.0%
	December	3	6	4	5	3	21	4	12.5%
DAY OF WEEK	Monday	3	4	3	7	9	26	5	15.5%
	Tuesday	6	8	4	8	8	34	7	20.2%
	Wednesday	3	2	5	5	9	24	5	14.3%
	Thursday	4	10	5	5	3	27	5	16.1%
	Friday	3	3	6	7	8	27	5	16.1%
	Saturday	6	1	4	4	5	20	4	11.9%
	Sunday	2	1	2	2	3	10	2	6.0%

Table 5: Crash Summary – Intersection 4 (Continued)

SE Monterey Rd & CR A1A		Number of Crashes					5 Year Total Crashes	Mean Crashes Per Year	%
		Year							
		2019	2020	2021	2022	2023			
HOUR OF DAY	00:00-06:00	0	2	0	1	1	4	1	2.4%
	06:00-09:00	3	3	5	8	5	24	5	14.3%
	09:00-11:00	0	5	3	5	8	21	4	12.5%
	11:00-13:00	2	2	3	5	7	19	4	11.3%
	13:00-15:00	9	4	3	3	6	25	5	14.9%
	15:00-18:00	10	10	9	6	13	48	10	28.6%
	18:00-21:00	3	2	6	9	3	23	5	13.7%
	21:00-24:00	0	1	0	1	2	4	1	2.4%
CONTRIBUTING CAUSES (VEHICLE ONLY)	No Contributing Action	2	3	0	3	2	10	2	6.0%
	Careless or Negligent	8	6	3	11	12	40	8	23.8%
	Failed to Yield Right-of-Way	1	2	3	5	2	13	3	7.7%
	Improper Backing	1	1	0	0	1	3	1	1.8%
	Improper Turn	2	1	0	0	0	3	1	1.8%
	Followed too Closely	8	8	15	8	14	53	11	31.5%
	Ran Red Light	1	1	0	1	1	4	1	2.4%
	Drove too Fast for Conditions	0	0	0	1	1	2	0	1.2%
	Ran Stop Sign	0	0	0	0	0	0	0	0.0%
	Improper Passing	0	0	0	0	0	0	0	0.0%
	Exceed Posted Speed Limit	0	0	0	0	0	0	0	0.0%
	Wrong Side or Wrong Lane	0	0	0	0	0	0	0	0.0%
	Failed To Keep In Proper Lane	1	2	3	3	3	12	2	7.1%
	Ran Off Roadway	0	1	0	0	1	2	0	1.2%
	Disregarded Other Traffic	0	0	1	0	0	1	0	0.6%
	Disregarded other Road User	0	0	0	0	0	0	0	0.0%
	Over-Correcting/Over-Swerving	0	0	0	0	0	0	0	0.0%
	Swerved Or Avoided	0	0	0	0	0	0	0	0.0%
	Erratic, Reckless or Aggressive	0	0	0	0	0	0	0	0.0%
	Other Contributing Action	3	4	4	6	8	25	5	14.9%
WEATHER CONDITIONS	Clear	17	26	24	25	30	122	24	72.6%
	Cloudy	4	3	2	7	12	28	6	16.7%
	Rain	6	0	3	6	3	18	4	10.7%
	Fog, Smog, Smoke	0	0	0	0	0	0	0	0.0%
	Sleet/Hail/Freezing Rain	0	0	0	0	0	0	0	0.0%
	Blowing Sand, Soil, Dust	0	0	0	0	0	0	0	0.0%
	Severe Crosswinds	0	0	0	0	0	0	0	0.0%
	Other	0	0	0	0	0	0	0	0.0%

Figure 16: Crash Histograms – Intersection 4



4.0 Development of Future Traffic Forecasts

4.1 Future Traffic Development/Development of AADTs

Historical AADTs, Growth Rates, Design Hour Factors (K-factor), Directional Distribution Factors (D-factor), and Truck Factors (T24) used in the previous reports to determine the future forecasted volumes were not updated in this report.

Traffic factors are presented in **Table 6**.

Table 6: Traffic Factors

Roadway	K ¹ %	D ² %	T ² %	DHT ³ %
SR 714/Monterey Road, West of US-1	9.0	58.6	9.0	4.5
SR 714/Monterey Road, East of US-1	9.0	58.6	6.0	3.0
US-1, north of SR 714/Monterey Road	9.0	58.6	8.0	4.0
US-1, south of SR 714/Monterey Road	9.0	58.6	7.0	3.5
CR A1A, north of SR 714/Monterey Road	9.0	58.6	7.0	3.5
CR A1A, south of SR 714/Monterey Road	9.0	58.6	7.0	3.5
SR 76/ Kanner Highway, North of SR 714/Monterey Road	9.0	61.5	6.0	3.0
SR 76/ Kanner Highway, South of SR 714/Monterey Road	9.0	61.5	6.0	3.0
SE Indian Street, West of US-1	9.0	58.6	7.0	3.5
SE Indian Street, East of US-1	9.0	58.6	7.0	3.5

1 - Large Urbanized Area with Core Freeways (Arterials and Highways) & (Freeways)

2 - Based on Historical Count Stations (5-year average)

3 - DHT=T24/2

"**" indicates calculated from Field Data

4.2 Travel Demand Forecasting

As stated previously, the Treasure Coast Regional Planning Model (TCRPM) was utilized for this PD&E forecasting support work. The 2015 and 2045 TCRPM outputs and a copy of both the *Initial Project Traffic Forecasting Report, April 2023* and the *Updated Traffic Forecasting Memorandum Report, August 2024* are included within the reports in **Appendix B** and **C**, respectively.

Alternatives 1 and 2

The projections from the *Initial Project Traffic Forecasting Report, April 2023* were utilized to develop the 2050 future year build traffic projections for both No-Build, Alternative 1.

This forecast included year 2022 traffic data collection for the initial 17 intersections in the study area, and an initial set of No-Build alternative projections based on the existing roadway configurations. These projections were developed using Treasure Coast Regional Planning Model Version 5 (TCRPM 5), the most recent at the time. Projections for intersections 22 and 23 were provided by the Willoughby Boulevard PD&E team.

Alternative 3

The projections from the *Updated Traffic Forecasting Memorandum Report, August 2024* were utilized to develop the future year build traffic projections for Alternative 3.

An updated subarea model validation procedure and detailed 2045 model-based traffic projections were developed for this new alternative, utilizing The Treasure Coast Regional Planning Model Version 5.1 (TCRPM5.1). As part of this effort, updated AADT traffic forecasts for the No-Build alternative, and the complete project traffic forecasts (AADTs and Turning Movements) for the additional build alternative were developed. The developed No-Build scenario was not utilized for this current effort.

4.3 Development of DDHV Volumes

The 2030 and 2050 AADT, Design Hourly Volumes (DHV) and peak hour turning movements were computed for both “No-Build” and of the two “Build” project alternatives.

K-Factors

The initial Traffic Forecasting Memorandum report and the Updated Traffic Forecasting Memorandum utilized different methodologies to develop the peak hour turning movement volumes with TMTTool, as noted:

- The *Initial Project Traffic Forecasting Report, April 2023* forced the K factor to 9% on the primary roadways for only the PM peak period. Minor roads were consistent with existing conditions.
 - Existing Year K factors for the study intersections were calculated based on the actual field data for the AM and PM Peak Periods.
 - For the Design Year, the PM peak hour K factors on along the study corridors were adjusted to represent the standard K factor of 9%.
 - The AM peak hour K factors were adjusted based on the difference between the standard K factors and average field K factors during the PM peak period.
 - The K factors for the minor streets were not adjusted from the field data calculations.
- The *Updated Traffic Forecasting Memorandum Report, August 2024* forced the K factors to 9% on all legs, for both the AM and PM time periods, for all intersections.

The K factor method used for traffic projections as part of this work effort was consistent with the *Initial Project Traffic Forecasting Report, April 2023* for all alternatives. However, for Alternative 3, since the peak hour turning movements were developed using a different K-Factor methodology, the 2050 the TMTTool Build forecast was revised to be consistent with *Initial Project Traffic Forecasting Report, April 2023* methodology, then grown to 2050 using the documented growth

rates in the updated report. K factors followed guidance from the 2019 Project Traffic Forecasting Handbook, as shown in **Table 7**.

Table 7: FDOT Standard K Factors

Area (Population)	Facility Type	Standard K Factor (% AADT)*	Representative Time Period
Large Urbanized Areas with Core Freeways (1,000,000+)	Freeways	8.0 - 9.0 ***	Typical weekday peak period or hour
	Arterials & Highways	9.0 **	Typical weekday peak hour
Other Urbanized Areas (50,000+)	Freeways	9.0 **	Typical weekday peak hour
	Arterials & Highways		
Transitioning to Urbanized Areas (Uncertain)	Freeways	9.0	Typical weekday peak hour
	Arterials & Highways		
Urban (5,000-50,000)	Freeways	10.5	100th highest hour of the year
	Arterials & Highways	9.0**	Typical weekday peak hour
Rural (<5,000)	Freeways	10.5	100th highest hour of the year
	Arterials	9.5**	
	Highways	9.5	

* Some smoothing of values at area boundaries/edges would be desirable.

** Value is 7.5% in approved Multimodal Transportation Districts where automobile movements are deemphasized. This lower value represents an extensive multi-hour peak period rather than a peak hour.

*** Value is 8.0% for FDOT-designated urbanized core freeways and may either be 8.5% or 9.0% for non-core freeways. Values less than 9% essentially represent a multi-hour peak period rather than a peak hour.

No-Build Forecast

AADT: The 2050 No-Build Average Annual Daily Traffic (AADT) and Design Hourly Volumes (DHV) volumes were developed by applying the documented growth rates from the *Initial Project Traffic Forecasting Report, April 2023* to the 2045 volumes.

Peak Hour Turning Movements: The No-Build TMTTool files from the *Initial Project Traffic Forecasting Report, April 2023* were revised to develop the turns using the previously approved growth rates for 2030 and 2050 volumes

Build Alternative 1 and 2 Forecast

AADT: The 2050 Build Average Annual Daily Traffic (AADT) and Design Hourly Volumes (DHV) volumes were developed by applying the documented growth rates from the *Initial Project Traffic Forecasting Report, April 2023* to the 2045 volumes.

Peak Hour Turning Movements: The No-Build TMTTool files from the initial Traffic Forecasting Memorandum report were revised to develop the Build turns for 2030 and 2050. Build volumes were developed from the No-Build 2045 volumes, after they have been manually assigned based on origin-destination patterns of each alternative. Growth rates remained consistent with the previous report.

Build Alternative 3 Forecast

AADT: The 2045 build volumes were interpolated to 2050 using the 2045 traffic forecast and growth rates from the *Updated Traffic Forecasting Memorandum Report, August 2024*.

Peak Hour Turning Movements: The Build TMTTool files from the Updated Traffic Forecasting Memorandum report was revised to develop the turns for 2030 and 2050 volumes. Growth rates remained consistent with the *Updated Traffic Forecasting Memorandum Report, August 2024*.

2050 TMTTool sheets for Alternative 1 and Alternative 3 are provided in The *Revised Traffic Forecasting Memo, December 2024* within **Appendix D**.

5.0 Future Conditions

Future traffic projections for the analysis locations within the study area for the No-Build, Alternative 1 scenarios were provided by the Department in *Initial Project Traffic Forecasting Report, April 2023*. Build Alternative 3 future traffic projections were included in the *Updated Traffic Forecasting Memorandum Report, August 2024*. The development of traffic projections requires the examination of historical growth, proposed development levels within the corridor vicinity, and a basic understanding of local traffic circulation patterns and travel characteristics of the study area. Excerpts of the documentation and analysis from the aforementioned studies have also been included in this section to facilitate continuity of these reports. As mentioned in the previous section, both the *Initial Project Traffic Forecasting Report, April 2023* and the *Updated Traffic Forecasting Memorandum Report, August 2024* are included within the reports in **Appendix B** and **C**, respectively.

5.1 Project Alternatives

Three (3) conceptual alternatives will be further developed to potentially eliminate or reduce the conflicts at the SR 714/Monterey Road and Florida East Coast Railway (FEC) intersection. The detailed conceptual schematic and summary of each project alternative is shown below. A revision to Alternative 1, hereafter referred to as Alternative 2, was developed to optimize the horizontal geometry and potential impacts. Due to the similarity to Alternative 1, Alternative 2 was not investigated through Synchro as part of this PTAR. However, increases in delay along each approach will result from the implementation of a split intersection layout. Initial testing of split intersections versus a single intersection showed an approximate increase in total delay of 30 percent or more.

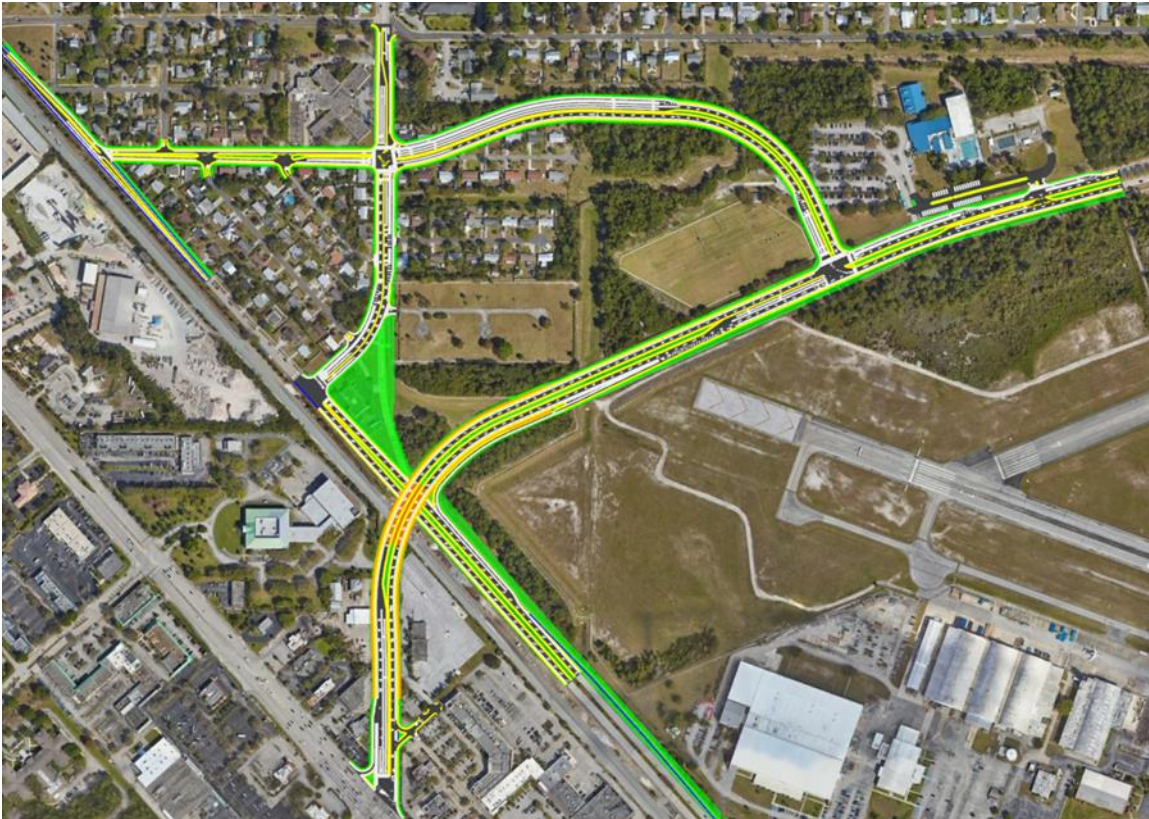
Additionally, an alternative that depressed SR 714 below the railroad and CR A1A was eliminated from this analysis due to concerns and feedback from FEC and local stakeholders.

In addition to the No-Build and Build alternatives, Transportation Systems Management and Operations (TSM&O) improvements were also developed and applied as separate alternatives. The TSM&O alternatives are included in the analysis.

5.1.1 Alternative 1 (also known as Feasibility Concept 3, version 5)

Alternative 1 would elevate only SR 714 (Monterey Road) over the FEC railway, utilizing the existing alignment of SR 714 (Monterey Road). SR 714 (Monterey Road) would be elevated using MSE walls and bridge structure over FEC Railroad and CR A1A. This alternative would provide limited connectivity between SR 714 (Monterey Road) and CR A1A through the use of an access road. The access road would connect to SR 714 (Monterey Road) east of the existing SR 714/CR A1A intersection on the north side of SR 714 (Monterey Road). The access road, which would be in the area that was once E 18th St, would connect into SE Palm Beach Road through a roundabout that would also connect to SE Christie Way. Pedestrian and bicycle accommodations are included in the concept. Additionally, a slip ramp from northbound CR A1A to eastbound Monterey Road was employed to alleviate some of the traffic having to use the SE Christy Way route. **Figure 17** shows the conceptual layout for the proposed intersection improvement.

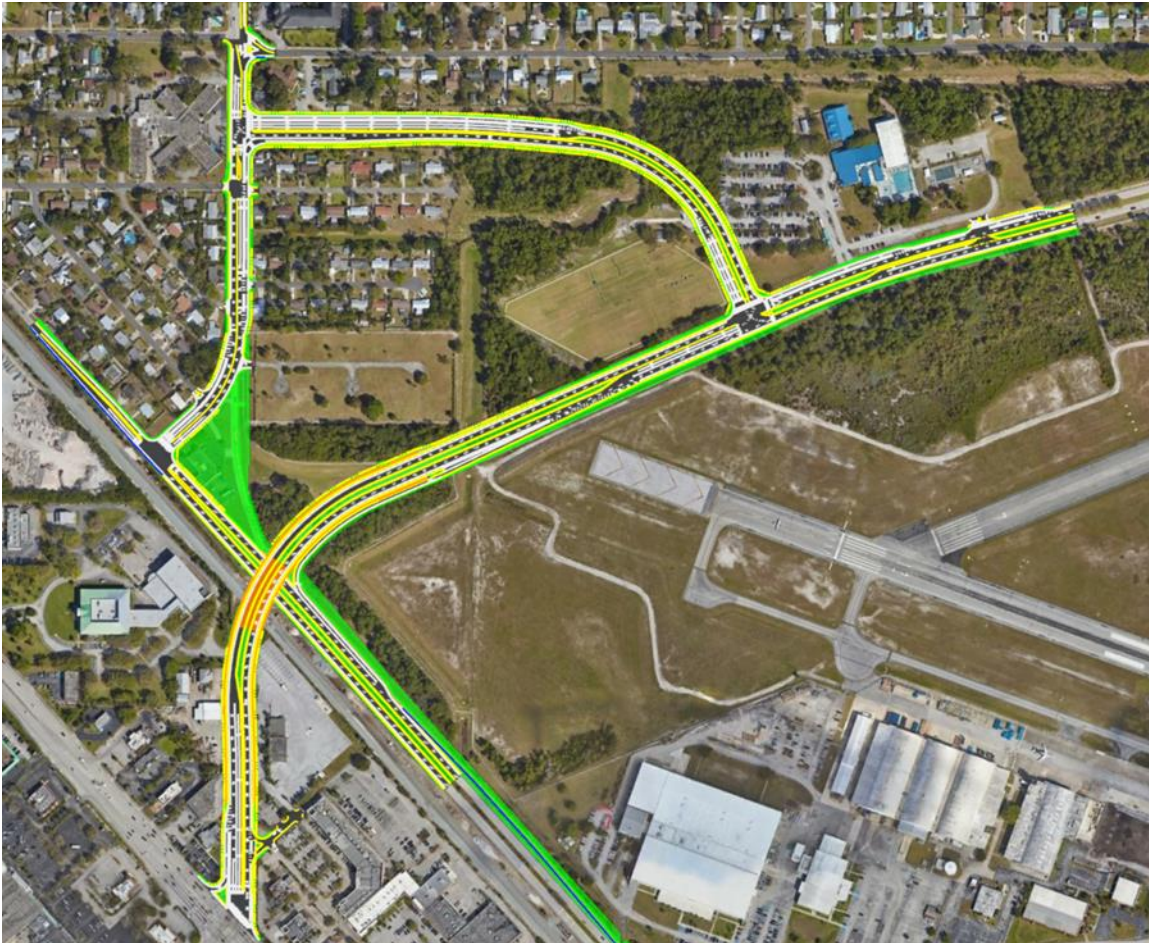
Figure 17: Alternative 1



5.1.2 Alternative 2 (also known as Feasibility Concept 3, v6)

Alternative 2 was developed as option to Alternative 1 to optimize the horizontal geometry and potential impacts. As shown in **Figure 18**, Christy Way Extension would end in a T-intersection at SE Palm Beach Road, rather than veering south to connect at SE 16 Street as in Alternative 1. This alignment would potentially decrease the amount of right-of-way acquisition required but would significantly increased vehicular delays by implementing a split intersection configuration. Initial testing of split intersections versus a single intersection showed an approximate increase in total delay of 30 percent or more. As such, Alternative 2 was not investigated through Synchro as part of this PTAR.

Figure 18: Alternative 2

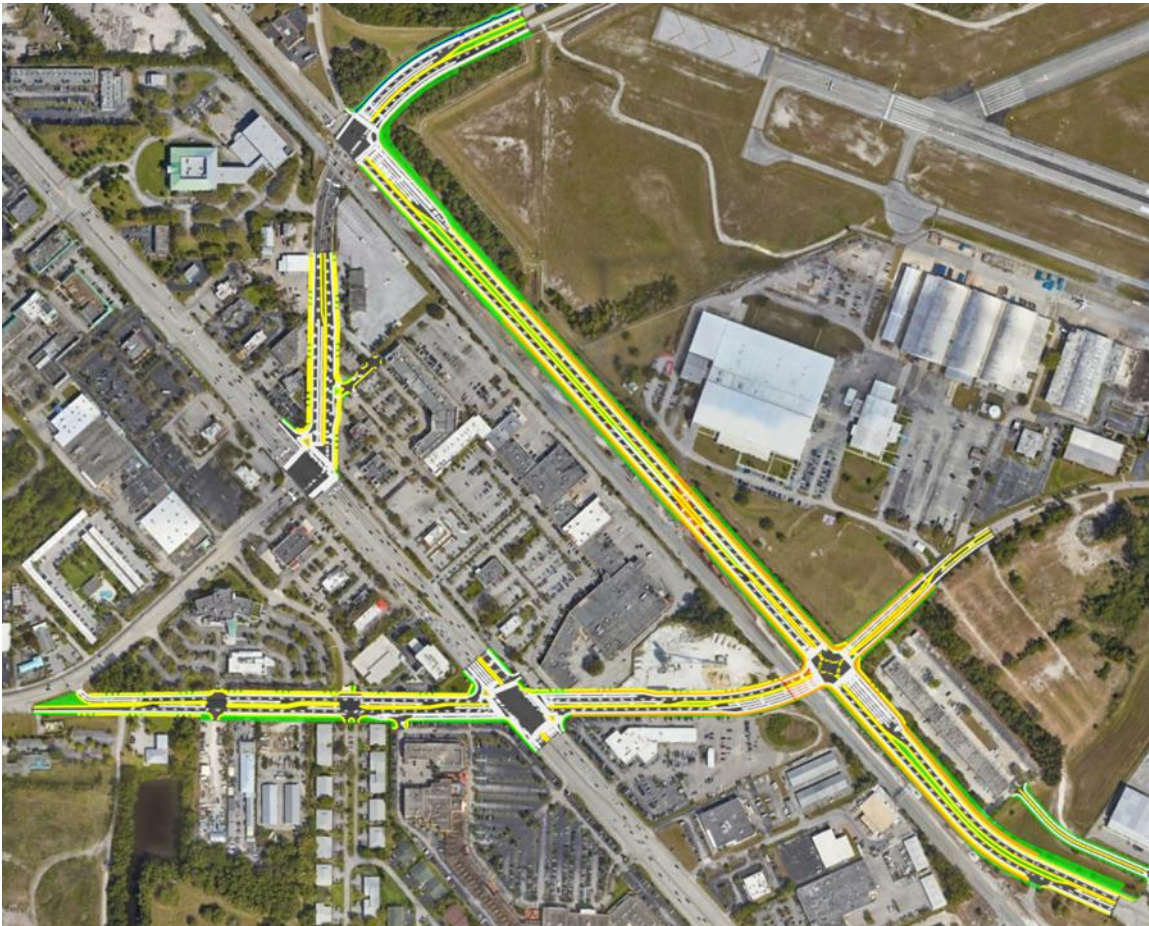


5.1.3 Alternative 3 (also known as Feasibility Concept 10)

Alternative 3 is located south of the current intersection with improvements to SE Monterey Road Extension and SE Grumman Boulevard, elevating over the tracks and also elevating the existing intersection of CR A1A and SE Airport Road. It is anticipated that SE Monterey Road Extension would need to be widened to a four-lane divided facility. SE Grumman Boulevard would be improved, extended and elevated over the railroad to the new raised intersection at CR A1A and ultimately tying into the Airport entrance. SE Grumman Boulevard and the new intersection at CR A1A would be elevated using mechanically stabilized earth (MSE) walls and bridge structure over FEC Railroad. To allow for construction and maintenance of ramps on the east side of CR A1A, encroachment onto airport property is

anticipated. Parcel impacts are also anticipated along SE Monterey Rd and SE Grumman Boulevard. Pedestrian and bicycle accommodations are included in the concept. **Figure 19** shows the conceptual layout for the proposed intersection improvement.

Figure 19: Alternative 3



5.1.4 TSM&O Improvements

As part of the TSM&O alternatives, intersection improvements were identified for those intersections which are not improved through the Build alternatives. **Table 8** below lists the improvements included in the TSM&O alternatives. The TSM&O alternatives also included signal optimization.

Table 8 – TSM&O Intersection Improvements

Intersection	Improvements
1	<ul style="list-style-type: none"> - Added dedicated westbound right-turn lane - Added northbound left-turn lane - Added northbound dedicated right-turn lane - Added southbound left-turn lane - Added southbound through lane - Provided right-turn overlap signals for dedicated right-turn lanes
2	- No improvements
3	<ul style="list-style-type: none"> - Removed dedicated eastbound right-turn lane - Added eastbound left-turn lane - Added westbound left-turn lane - Added northbound left-turn lane - Added southbound left-turn lane - Converted northbound right-turn lane to freeflow operation through the addition of eastbound through receiving lane
4	<ul style="list-style-type: none"> - Added westbound left-turn lane - Added northbound left-turn lane - Converted northbound right-turn lane to freeflow operation through the addition of eastbound through receiving lane
5	No improvements
6	- Added westbound left-turn lane
7	- Added northbound dedicated right-turn lane
8	No improvements
9	No improvements
10	<ul style="list-style-type: none"> - Added westbound right-turn lane - Provided right-turn overlap signals for dedicated right-turn lanes
11	- Converted intersection to signalized operation
12	- Converted intersection to signalized operation
13	- Added eastbound left-turn lane
14	- Provided right-turn overlap signals for dedicated right-turn lanes
15	No improvements
16	- Provided right-turn overlap signals for dedicated right-turn lanes
17	No improvements
22	<ul style="list-style-type: none"> - Added dedicated eastbound right-turn lane - Provided right-turn overlap signals for dedicated right-turn lanes
23	<p>This intersection will be improved as part of the Willoughby Boulevard PD&E project. The planned improvements are included as part of this project's Build and Build/TSM&O alternatives.</p>

6.0 FORECASTED AADTS AND TURNING MOVEMENT VOLUMES

6.1 Growth Rate Calculations

Growth rates utilized for this report to calculate 2050 volumes remained consistent with the previous Traffic Forecasting Memorandums.

6.1.1 No-Build, Alternative 1 Growth Rate

The *Revised Project Traffic Forecasting Report, December 2024*, included in **Appendix D** documents the project traffic forecasting methodology followed for the No-Build alternative and Alternatives 1 and 2.

As previously approved, the recommended growth rate for the No-Build alternative and Alternatives 1 and 2 were calculated to be 0.8 percent for the entire study area.

6.1.2 Alternative 3 Growth Rate

The *Updated Traffic Forecasting Memorandum Report, August 2024* developed Compound Growth Rates (CGR) from the adjusted model results between 2045 and 2015 model results, which included subarea model validation, and No-Build and Build model runs. The No-Build scenario developed as part of this report was not utilized for this exercise.

CGR values that were less than 0.5% were capped to 0.5%, to allow a minimum growth rate of all road segments within the study area for the no-build scenario. The same is true for the build scenario, with exception to Monterey Road and Indian Street east and west of US -1, due to the fact that the Monterey Extension is expected to divert traffic from these legs, resulting in negative growth forecasts.

The growth rate methodologies that were utilized as part of this report included:

- Average CGR build model to model (capped) – 0.65%
- Average CGR no-build model to model (capped) – 0.61%

In addition, segment-level growth rates from the No-Build and Build model results were used to compute the AADT projections.

The recommended growth rate calculations for Build Alternative 3 scenario are presented in **Table 9** and the full report is presented in *Revised Project Traffic Forecasting Report, December 2024*, included in **Appendix D**.

6.2 Future AADTs and DHVs

Future AADTs and DHVs for the No-Build, Build Alternative 1 and Build Alternative 3 scenarios are provided in **Tables 10 through 12** and shown graphically in **Figures 20 through 25** respectively.

The AM, MD and PM peak hour intersection volumes for the No-Build, Build Alternative 1 and Build Alternative 3 scenarios are provided in **Figures 26 through 31**, respectively.

Table 9 – Build Alternative 3 Growth Rate Recommendations

Location	CGR
US-1, north of SR 5A	0.50%
US-1, south of SR 5A	1.20%
US-1, south of SE Contractors Way	0.65%
US-1, north of Monterey Road	0.50%
US-1, south of Monterey Road	0.50%
US-1, between Monterey Extension and Luckhardt Street	0.65%
US-1, south of SE Indian Street	0.50%
US-1, north of SE Indian Street	0.50%
SR A1A, north of SR 5A	0.50%
SR A1A, north of SE Railroad Ave/Decker Ave	0.50%
SR A1A, south of SE Railroad Ave/Decker Ave	0.50%
SR A1A, north of Monterey Road	0.50%
SR A1A, south of Monterey Road	0.59%
SR A1A, north of SE Aviation way	0.65%
SR A1A, north of SE Indian Street	0.50%
SR A1A, south of SE Indian Street	0.50%
SR 76/ Kanner Highway, north of Monterey Road	0.50%
SR 76/ Kanner Highway, south of Monterey Road	0.50%
Monterey Road, west of SR 76/Kanner Highway	0.90%
Monterey Road, east of SR 76/Kanner Highway	0.50%
Monterey Road, west of US-1	-0.68%
Monterey Road, east of US-1	-0.47%

Table 9 – Build Alternative 3 Growth Rate Recommendations, Cont'd

Location	CGR
Monterrey Road, east of SR A1A	0.65%
SE Indian Street, west of US-1	0.50%
SE Indian Street, east of US-1	-1.24%
SE Indian Street, west of SR A1A	-1.11%
SE Indian Street, east of SR A1A	0.50%
Luckhardt St, east of US-1	0.65%
Luckhardt St, west of US-1	0.65%
SE Aviation way, east of SR A1A	0.65%
SE Airport Road, east of SR A1A	0.65%
Grumman Boulevard, east of US-1	0.50%
Monterey Extension, east of Monterey Road	2.18%
SE Christie Way, east of SR A1A	0.50%
SE Central Parkway, east of US-1	0.65%
SE Central Parkway, west of US-1	0.50%
Decker Ave, west of SR A1A	0.65%
SE Railroad Ave, east of SR A1A	0.65%
SE Palm Beach Rd, E of SR A1A	0.50%
SR 5A, east of US-1	0.65%
SE Contractors Way, east of US1	1.38%
Driveway (North leg) at Monterey Road at Monterey Extension	0.65%
North Leg (SR5A) at SR A1A at SR 5A (West)	0.65%
East Leg at SR A1A at SR 5A (West)	0.65%
Driveway (West Leg) at SR A1A at SR 5A (West)	0.65%
North Leg (SR A1A) at SR A1A at SR 5A (East)	0.65%
Monterey Road, east of SR 76/Kanner Highway	0.50%
Monterey Road, west of SR 76/Kanner Highway	0.67%

Table 10 – No Build Recommended AADTs and DHVs

Location	2022	Growth Rate	2030	2040	2050	K	2030	2040	2050
	AADT		AADT ²			%	DHV		
US-1, north of SR 5A	41,000	0.80%	43,500	47,500	51,000	9.0%	3,900	4,300	4,600
US-1, south of SR 5A	39,000		41,500	45,000	48,500	9.0%	3,700	4,100	4,400
US-1, south of SE Contractors Way ²	37,500		40,000	43,500	47,000	9.0%	3,600	3,900	4,200
US-1, north of Monterey Road	39,500		42,000	45,500	49,500	9.0%	3,800	4,100	4,500
US-1, south of Monterey Road	41,000		43,500	47,500	51,000	9.0%	3,900	4,300	4,600
US-1, between Monterey Extension and Luckhardt St ²	43,000		46,000	49,500	53,500	9.0%	4,100	4,500	4,800
US-1, south of SE Indian Street	47,000		50,000	54,000	58,500	9.0%	4,500	4,900	5,300
US-1, north of SE Indian Street	46,500		49,500	53,500	58,000	9.0%	4,500	4,800	5,200
CR A1A, north of SR 5A2 ³	8,700		9,300	10,000	10,900	9.0%	800	900	1,000
CR A1A, north of SE Rail Road Ave/Decker Ave	8,700		9,300	10,000	10,900	9.0%	800	900	1,000
CR A1A, south of SE Rail Road Ave/Decker Ave	8,200		8,700	9,500	10,000	9.0%	800	850	900
CR A1A, north of Monterey Road	13,500		14,500	15,500	17,000	9.0%	1,300	1,400	1,500
CR A1A, south of Monterey Road	19,500		21,000	22,500	24,500	9.0%	1,900	2,000	2,200
CR A1A, north of SE Aviation way ²	17,500		18,500	20,000	22,000	9.0%	1,700	1,800	2,000
CR A1A, north of SE Indian Street	19,500		21,000	22,500	24,500	9.0%	1,900	2,000	2,200
CR A1A, south of SE Indian Street	20,500		22,000	23,500	25,500	9.0%	2,000	2,100	2,300
SR 76/ Kanner Highway, north of Monterey Road	33,000		35,000	38,000	41,000	9.0%	3,200	3,400	3,700
SR 76/ Kanner Highway, south of Monterey Road	26,000		27,500	30,000	32,500	9.0%	2,500	2,700	2,900
Monterrey Road, west of SR 76/Kanner Highway	32,500		34,500	37,500	40,500	9.0%	3,100	3,400	3,600
Monterrey Road, east of SR 76/Kanner Highway	26,500		28,000	30,500	33,000	9.0%	2,500	2,700	3,000
Monterrey Road, west of US-1	20,500		22,000	23,500	25,500	9.0%	2,000	2,100	2,300
Monterrey Road, east of US-1	27,000		29,000	31,000	33,500	9.0%	2,600	2,800	3,000
Monterrey Road, east of CR A1A	23,000		24,500	26,500	28,500	9.0%	2,200	2,400	2,600
SE Indian Street, west of US-1	28,500		30,500	33,000	35,500	9.0%	2,700	3,000	3,200
SE Indian Street, east of US-1	26,000		27,500	30,000	32,500	9.0%	2,500	2,700	2,900
SE Indian Street, west of CR A1A	26,000		27,500	30,000	32,500	9.0%	2,500	2,700	2,900
SE Indian Street, east of CR A1A	10,000		10,500	11,500	12,500	9.0%	900	1,000	1,100
Luckhardt St, east of US-1 ³	1,000		1,050	1,150	1,250	9.0%	95	105	115
Luckhardt St, west of US-1	3,400		3,600	3,900	4,200	9.0%	320	350	380
SE Aviation way, east of CR A1A	1,900		2,050	2,200	2,400	9.0%	180	200	220
SE Airport Road, east of CR A1A	2,000		2,100	2,300	2,500	9.0%	190	210	230
Grumman Boulevard, east of US-1 ³	4,500		4,800	5,200	5,600	9.0%	430	450	500
Monterrey Extension, east of Monterey Road	7,500		8,000	8,700	9,400	9.0%	700	800	850
SE Christie Way, east of CR A1A	5,800		6,200	6,700	7,200	9.0%	560	600	650
SE Central Parkway, east of US-1	1,300		1,400	1,500	1,600	9.0%	125	135	145
SE Central Parkway, west of US-1	4,400		4,700	5,100	5,500	9.0%	400	450	500
Decker Ave, west of CR A1A	800		850	900	1,000	9.0%	80	90	100
SE Palm Beach Rd, E of CR A1A	5,400		5,800	6,200	6,700	9.0%	500	550	600
SR 5A, east of US-1	3,100		3,300	3,600	3,900	9.0%	300	320	350
SE Contractors Way, east of US-1	1,400		1,500	1,600	1,700	9.0%	135	145	155
Driveway (North leg) at Monterey Road at Monterey Extension ^{4,5}	450		480	520	560	9.0%	45	50	55
North Leg (SR5A) at CR A1A at SR 5A (West) ^{4,5}	900		950	1,050	1,100	9.0%	85	95	100
East Leg at CR A1A at SR 5A (West) ^{4,5}	1,900		2,050	2,200	2,400	9.0%	180	200	220
Driveway (West Leg) at CR A1A at SR 5A (West) ^{4,5}	150		160	170	190	9.0%	20	25	35
North Leg (CR A1A) at CR A1A at SR 5A (East) ^{4,5}	8,100		8,600	9,300	10,100	9.0%	750	850	900

Note:

- 1) Rounded
- 2) AADTs are calculated from Classification Counts
- 3) AADTs are adjusted to be consistent with TMC peak hour counts after investigation suggests lower tube count than expected.
- 4) AADTs are calculated from peak hour turning movements with standard K factor, 0.09
- 5) More detailed Calculations are included in Appendix A

Table 11 – Alternative 1 and 2 - Build Recommended AADTs and DHVs

Location	Growth Rate	2022	2030	2040	2050	K	2030	2040	2050
		AADT	AADT ²			%	DHV		
US-1, north of SR 5A	0.80%	41,000	43,500	47,500	51,000	9.0%	3,900	4,300	4,600
US-1, south of SR 5A		39,000	41,500	45,000	48,500	9.0%	3,700	4,100	4,400
US-1, south of SE Contractors Way ²		37,500	40,000	43,500	47,000	9.0%	3,600	3,900	4,200
US-1, north of Monterey Road		39,500	42,000	45,500	49,500	9.0%	3,800	4,100	4,500
US-1, south of Monterey Road		41,000	43,500	47,500	51,000	9.0%	3,900	4,300	4,600
US-1, between Monterey Extension and Luckhardt St ²		43,000	46,000	49,500	53,500	9.0%	4,100	4,500	4,800
US-1, south of SE Indian Street		47,000	50,000	54,000	58,500	9.0%	4,500	4,900	5,300
US-1, north of SE Indian Street		46,500	49,500	53,500	58,000	9.0%	4,500	4,800	5,200
SR A1A, north of SR 5A22, ³		8,700	9,300	10,000	10,900	9.0%	850	900	1,000
SR A1A, north of SE Rail Road Ave/Decker Ave		8,700	9,300	10,000	10,900	9.0%	800	900	1,000
SR A1A, south of SE Rail Road Ave/Decker Ave		8,200	8,700	9,500	10,200	9.0%	800	850	900
SR A1A, north of Monterey Road ⁶			24,000	26,000	28,000	9.0%	2,200	2,300	2,500
SR A1A, south of Monterey Road		19,500	21,000	22,500	24,500	9.0%	1,900	2,000	2,200
SR A1A, north of SE Aviation way ²		17,500	18,500	20,000	22,000	9.0%	1,700	1,800	2,000
SR A1A, north of SE Indian Street		19,500	21,000	22,500	24,500	9.0%	1,900	2,000	2,200
SR A1A, south of SE Indian Street		20,500	22,000	23,500	25,500	9.0%	2,000	2,100	2,300
SR 76/ Kanner Highway, north of Monterey Road		33,000	35,000	38,000	41,000	9.0%	3,200	3,400	3,700
SR 76/ Kanner Highway, south of Monterey Road		26,000	27,500	30,000	32,500	9.0%	2,500	2,700	2,900
Monterrey Road, west of SR 76/Kanner Highway		32,500	34,500	37,500	40,500	9.0%	3,100	3,400	3,600
Monterrey Road, east of SR 76/Kanner Highway		26,500	28,000	30,500	33,000	9.0%	2,500	2,700	3,000
Monterrey Road, west of US-1		20,500	22,000	23,500	25,500	9.0%	2,000	2,100	2,300
Monterrey Road, east of US-1		27,000	29,000	31,000	33,500	9.0%	2,600	2,800	3,000
Monterrey Road, east of SR A1A ⁶			29,500	31,500	34,500	9.0%	2,700	2,800	3,100
Monterrey Road, east of SE Christie Way Extension		23,000	24,500	26,500	28,500	9.0%	2,200	2,400	2,600
SE Indian Street, west of US-1		28,500	30,500	33,000	35,500	9.0%	2,700	3,000	3,200
SE Indian Street, east of US-1		26,000	27,500	30,000	32,500	9.0%	2,500	2,700	2,900
SE Indian Street, west of SR A1A		26,000	27,500	30,000	32,500	9.0%	2,500	2,700	2,900
SE Indian Street, east of SR A1A		10,000	10,500	11,500	12,500	9.0%	900	1,000	1,100
Luckhardt St, east of US-1 ³		1,000	1,050	1,150	1,250	9.0%	95	105	115
Luckhardt St, west of US-1		3,400	3,600	3,900	4,200	9.0%	320	350	380
SE Aviation way, east of SR A1A		1,900	2,000	2,200	2,400	9.0%	180	200	220
SE Airport Road, east of SR A1A		2,000	2,100	2,300	2,500	9.0%	190	210	230
Grumman Boulevard, east of US-1 ³		4,500	4,800	5,200	5,600	9.0%	430	450	500
Monterrey Extension, east of Monterey Road		7,500	8,000	8,700	9,400	9.0%	700	800	850
SE Christie Way, east of SR A1A ⁶			13,000	14,000	15,000	9.0%	1,150	1,250	1,350
SE Christie Way, new extension east of SE Palm Beach Road ⁶			27,500	30,000	32,500	9.0%	2,500	2,700	2,900
SE Central Parkway, east of US-1		1,300	1,400	1,500	1,600	9.0%	125	135	145
SE Central Parkway, west of US-1		4,400	4,700	5,100	5,500	9.0%	400	450	500
Decker Ave, west of SR A1A		800	850	900	1,000	9.0%	80	90	100
SE Palm Beach Rd, E of SR A1A ⁶			7,500	8,100	8,700	9.0%	700	750	800
SR 5A, east of US-1		3,100	3,300	3,600	3,900	9.0%	300	320	350
SE Contractors Way, east of US-1		1,400	1,500	1,600	1,700	9.0%	135	145	155
Driveway (North leg) at Monterey Road at Monterey Extension ^{4,5}		450	495	520	560	9.0%	45	50	55
North Leg (SR5A) at SR A1A at SR 5A (West) ^{4,5}		900	950	1,050	1,100	9.0%	85	95	100
East Leg at SR A1A at SR 5A (West) ^{4,5}		1,900	2,000	2,200	2,400	9.0%	180	200	220
Driveway (West Leg) at SR A1A at SR 5A (West) ^{4,5}		150	160	170	190	9.0%	20	25	35
North Leg (SR A1A) at SR A1A at SR 5A (East) ^{4,5}		8,100	8,600	9,300	10,100	9.0%	750	850	900

Note:

- 1) Rounded
- 2) AADTs are calculated from Classification Counts
- 3) AADTs are adjusted to be consistent with TMC peak hour counts after investigation suggests lower tube count than expected.
- 4) AADTs are calculated from peak hour turning movements with standard K factor, 0.09
- 5) More detailed Calculations are included in Appendix A
- 6) (23,000) Estimated from PM peak hour volume% increase/decrease from no-build volumes

Table 12 – Alternative 3 - Build Recommended AADTs and DHVs

Location	Growth Rate	2022	2030	2040	2050	K	2030	2040	2050
		AADT	AADT ²			%	DHV		
US-1, north of SR 5A	0.50%	41,000	42,500	45,000	47,000	9.0%	3,800	4,100	4,200
US-1, south of SR 5A	1.20%	39,000	43,000	48,500	54,500	9.0%	3,900	4,400	4,900
US-1, south of SE Contractors Way ²	0.65%	37,500	39,500	42,000	45,000	9.0%	3,600	3,800	4,100
US-1, north of Monterey Road	0.50%	39,500	41,000	43,000	45,500	9.0%	3,700	3,900	4,100
US-1, south of Monterey Road	0.50%	41,000	42,500	45,000	47,000	9.0%	3,800	4,100	4,200
US-1, between Monterey Extension and Luckhardt St ²	0.65%	43,000	45,500	48,500	51,500	9.0%	4,100	4,400	4,600
US-1, south of SE Indian Street	0.50%	47,000	49,000	51,500	54,000	9.0%	4,400	4,600	4,900
US-1, north of SE Indian Street	0.50%	46,500	48,500	51,000	53,500	9.0%	4,400	4,600	4,800
CR A1A, north of SR 5A ^{2,3}	0.65%	8,700	9,200	9,800	10,400	9.0%	850	900	950
CR A1A, north of SE Rail Road Ave/Decker Ave	0.50%	8,700	9,100	9,500	10,000	9.0%	800	850	900
CR A1A, south of SE Rail Road Ave/Decker Ave	0.50%	8,200	8,500	9,000	9,400	9.0%	750	800	850
CR A1A, north of Monterey Road	0.50%	13,500	14,000	15,000	15,500	9.0%	1,300	1,400	1,400
CR A1A, south of Monterey Road	0.59%	19,500	20,500	21,500	23,000	9.0%	1,800	1,900	2,100
CR A1A, north of SE Aviation way ²	0.65%	17,500	18,500	19,500	21,000	9.0%	1,700	1,750	1,900
CR A1A, north of SE Indian Street	0.50%	19,500	20,500	21,500	22,500	9.0%	1,800	1,900	2,000
CR A1A, south of SE Indian Street	0.50%	20,500	21,500	22,500	23,500	9.0%	1,900	2,000	2,100
SR 76/ Kanner Highway, north of Monterey Road	0.50%	33,000	34,500	36,000	38,000	9.0%	3,100	3,200	3,400
SR 76/ Kanner Highway, south of Monterey Road	0.58%	26,000	27,000	29,000	30,500	9.0%	2,400	2,600	2,700
Monterrey Road, west of SR 76/Kanner Highway	0.90%	32,500	35,000	38,000	42,000	9.0%	3,200	3,400	3,800
Monterrey Road, east of SR 76/Kanner Highway	0.62%	26,500	28,000	29,500	31,500	9.0%	2,500	2,700	2,800
Monterrey Road, west of US-1	-0.68%	20,500	19,500	18,000	17,000	9.0%	1,800	1,600	1,500
Monterrey Road, east of US-1	-0.47%	27,000	26,000	25,000	23,500	9.0%	2,300	2,300	2,100
Monterrey Road, east of CR A1A	0.65%	23,000	24,000	26,000	27,500	9.0%	2,200	2,300	2,500
SE Indian Street, west of US-1	0.50%	28,500	29,500	31,000	33,000	9.0%	2,700	2,800	3,000
SE Indian Street, east of US-1	-1.24%	26,000	23,500	21,000	18,500	9.0%	2,100	1,900	1,700
SE Indian Street, west of CR A1A	-1.24%	26,000	23,500	21,000	18,500	9.0%	2,100	1,900	1,700
SE Indian Street, east of CR A1A	0.50%	10,000	10,500	11,000	11,500	9.0%	950	1,000	1,050
Luckhardt St, east of US-1 ³	0.65%	1,000	1,050	1,100	1,200	9.0%	95	100	110
Luckhardt St, west of US-1	0.65%	3,400	3,600	3,800	4,100	9.0%	320	340	370
SE Aviation way, east of CR A1A	0.65%	1,900	2,000	2,100	2,300	9.0%	180	190	210
SE Airport Road, east of CR A1A	0.65%	2,000	2,100	2,200	2,400	9.0%	190	200	220
Grumman Boulevard, east of US-1 ³	0.50%	18,500	19,500	20,000	21,500	9.0%	1,750	1,800	1,950
Monterrey Extension, east of Monterey Road	2.18%	7,500	9,000	11,000	13,500	9.0%	800	1,000	1,200
SE Christie Way, east of CR A1A	0.50%	5,800	6,000	6,300	6,700	9.0%	540	570	600
SE Central Parkway, east of US-1	0.65%	1,300	1,350	1,450	1,550	9.0%	120	130	140
SE Central Parkway, west of US-1	0.50%	4,400	4,600	4,800	5,100	9.0%	410	430	460
Decker Ave, west of CR A1A	0.65%	800	850	900	950	9.0%	80	90	100
SE Rail Road Ave, east of CR A1A	0.65%	200	210	220	240	9.0%	25	30	35
SE Palm Beach Rd, E of SR A1A	0.50%	5400	5,600	5,900	6,200	9.0%	500	530	560
SR 5A, east of US-1	0.65%	3,100	3,300	3,500	3,700	9.0%	300	320	330
SE Contractors Way, east of US-1	1.38%	1,400	1,600	1,800	2,100	9.0%	145	160	190
Driveway (North leg) at Monterey Road at Monterey Extension ^{4,5}	0.65%	450	470	510	540	9.0%	40	50	55
North Leg (SR5A) at CR A1A at SR 5A (West) ^{4,5}	0.65%	900	950	1,000	1,100	9.0%	85	90	100
East Leg at CR A1A at SR 5A (West) ^{4,5}	0.65%	1,900	2,000	2,150	2,300	9.0%	180	190	210
Driveway (West Leg) at CR A1A at SR 5A (West) ^{4,5}	0.65%	150	160	170	180	9.0%	20	25	35
North Leg (CR A1A) at CR A1A at SR 5A (East) ^{4,5}	0.65%	8,700	9,200	9,800	10,400	9.0%	850	900	950

Note:

- 1) Rounded
- 2) AADTs are calculated from Classification Counts
- 3) AADTs are adjusted to be consistent with TMC peak hour counts after investigation suggests lower tube count than expected.
- 4) AADTs are calculated from peak hour turning movements with standard K factor, 0.09
- 5) More detailed Calculations are included in Appendix A



Figure 20: Existing and No-Build AADT

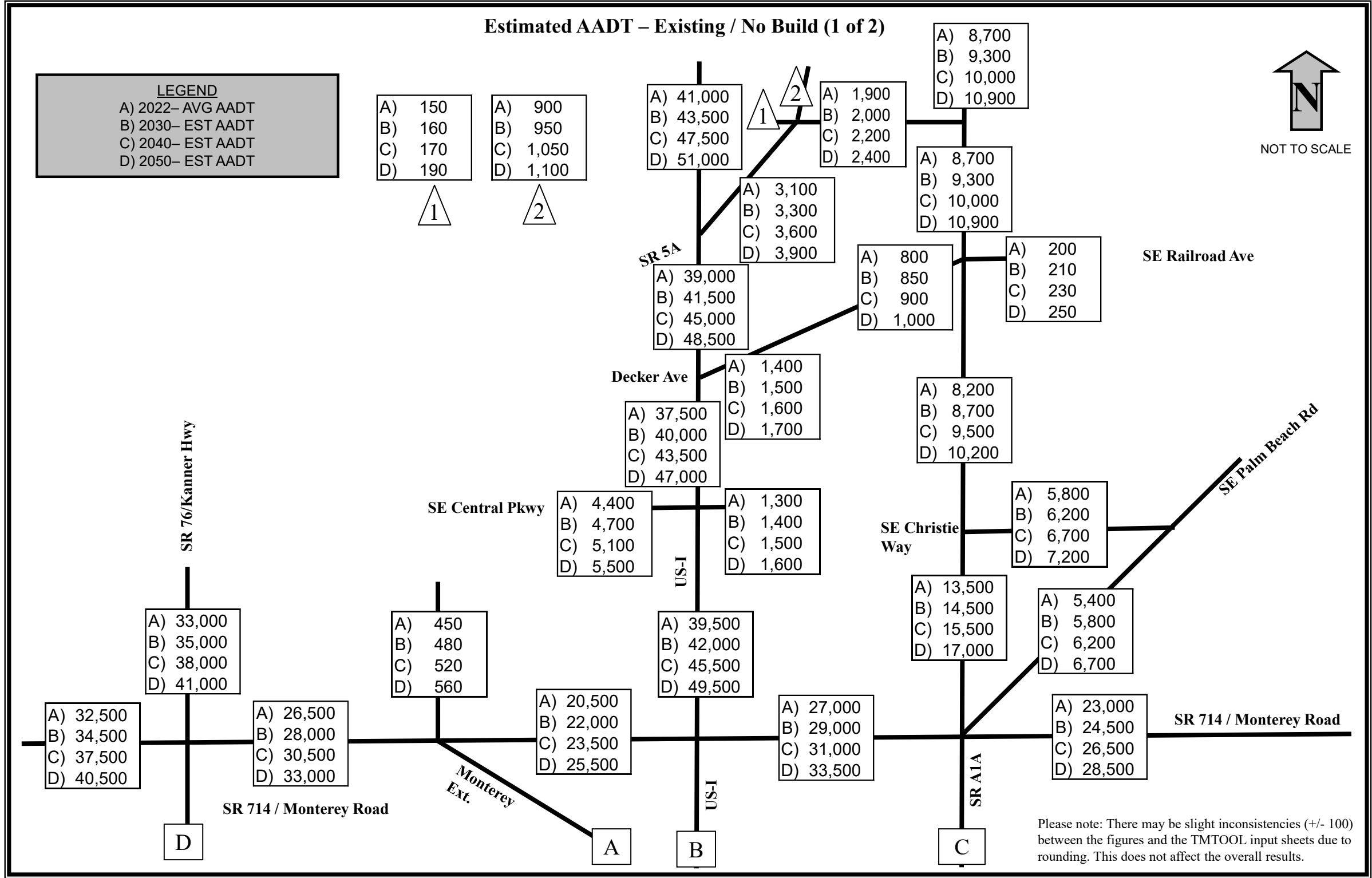




Figure 20: Existing and No-Build AADT Cont'd

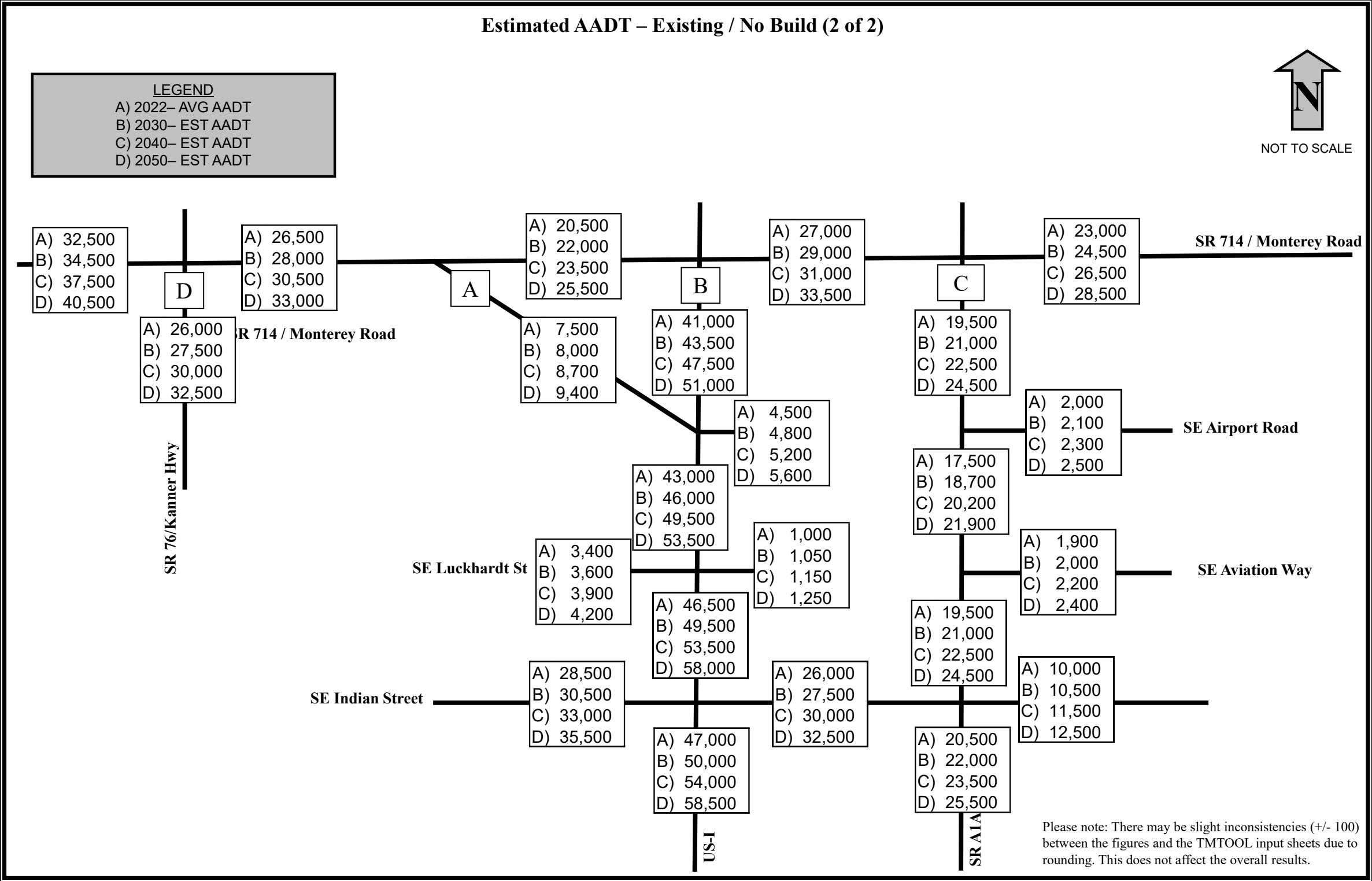




Figure 21: Alternative 1 and 2 - Build AADT

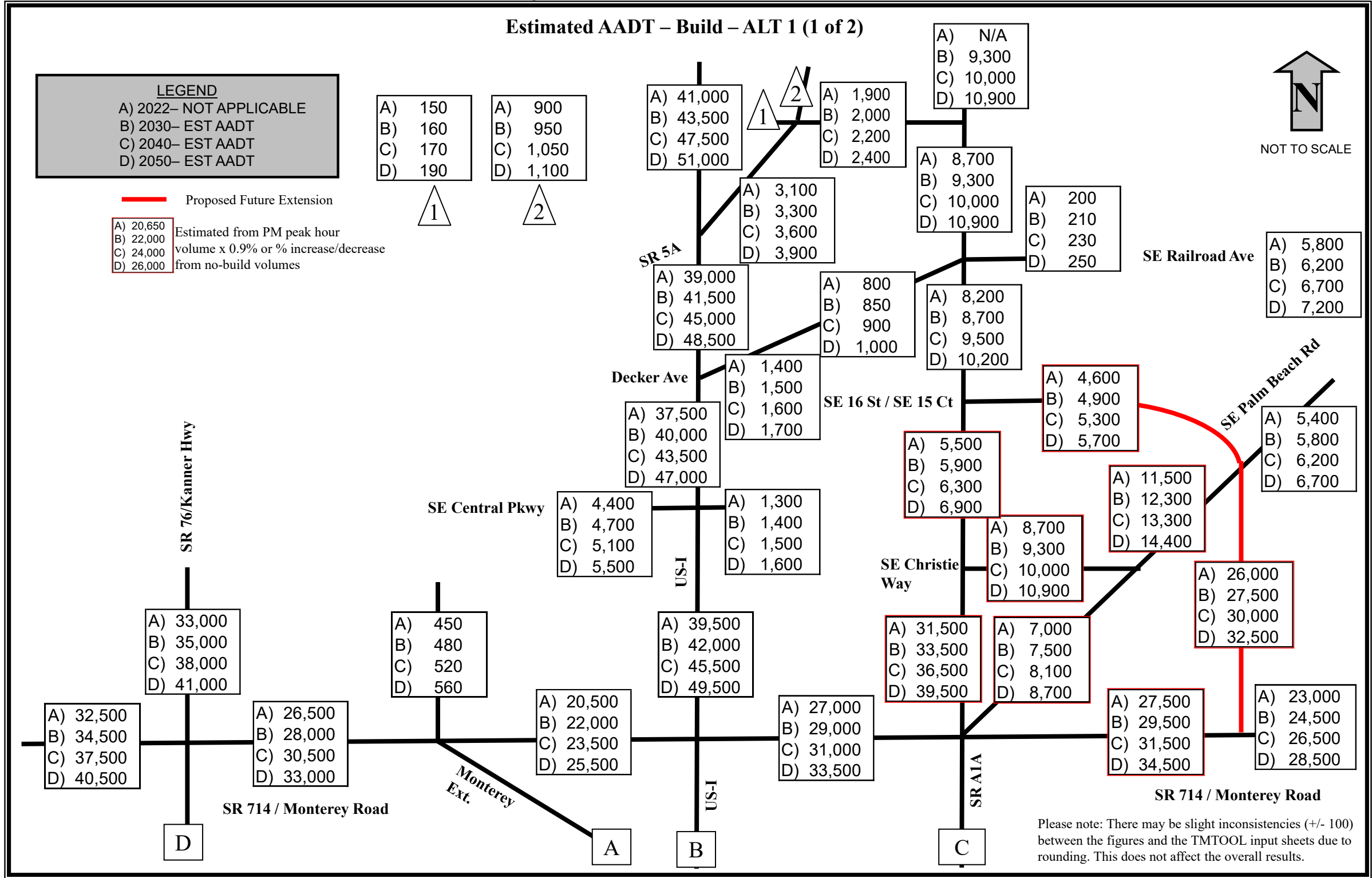




Figure 21: Alternative 1 and 2 - Build AADT Cont'd

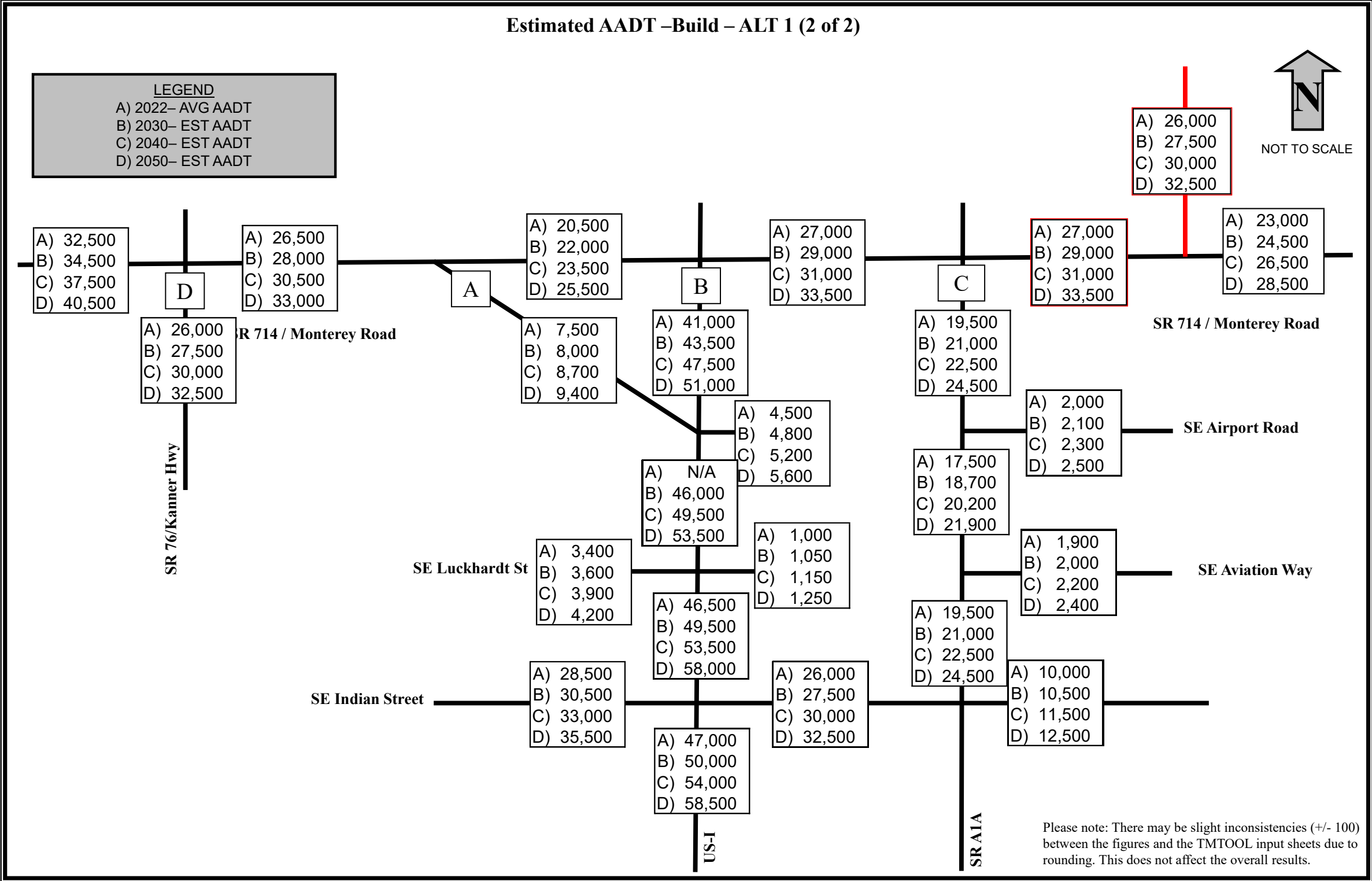
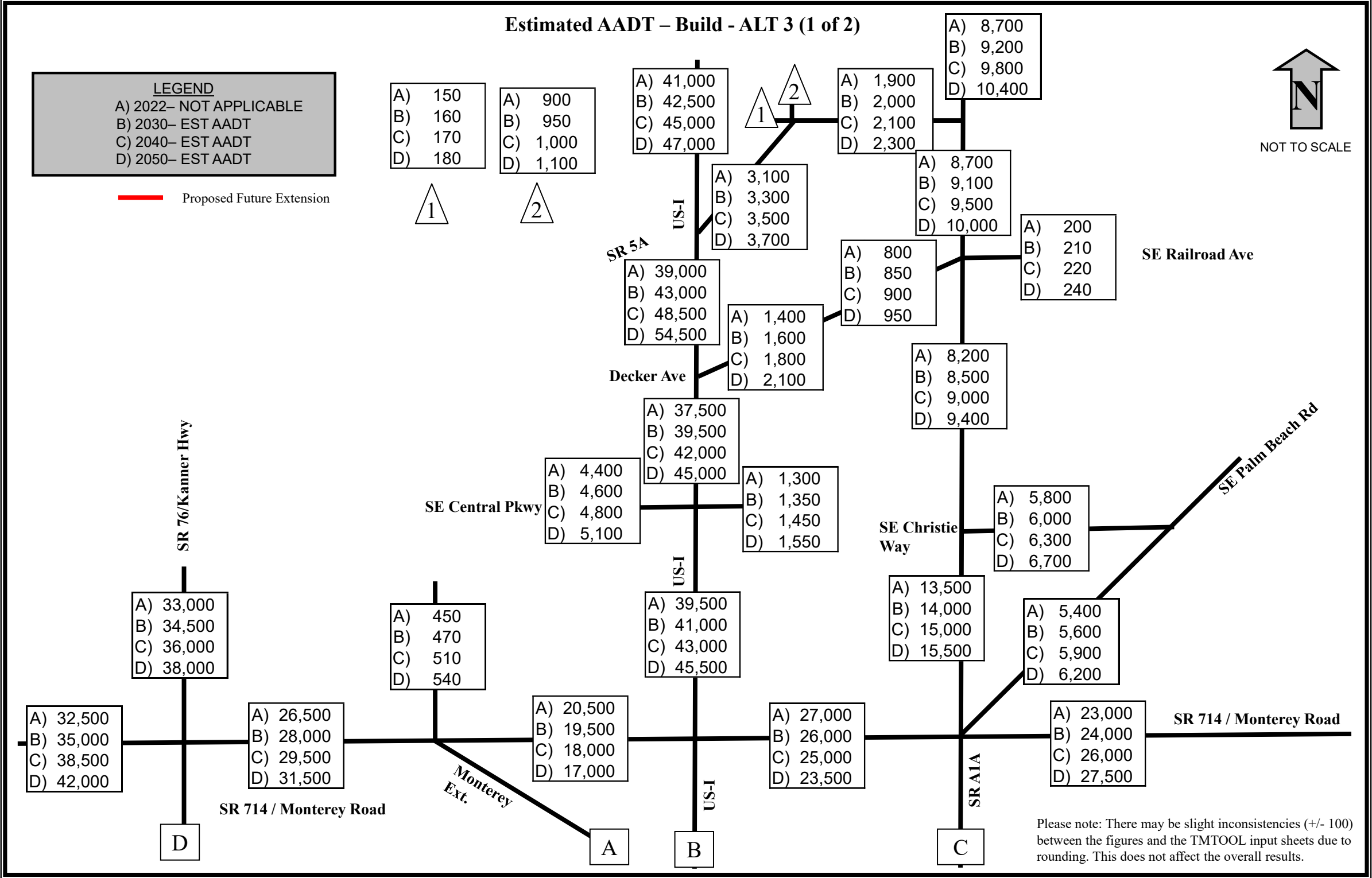




Figure 22: Alternative 3 - Build AADT



Estimated AADT –Build - ALT 3 (2 of 2)





Figure 23: Existing and No-Build DHV

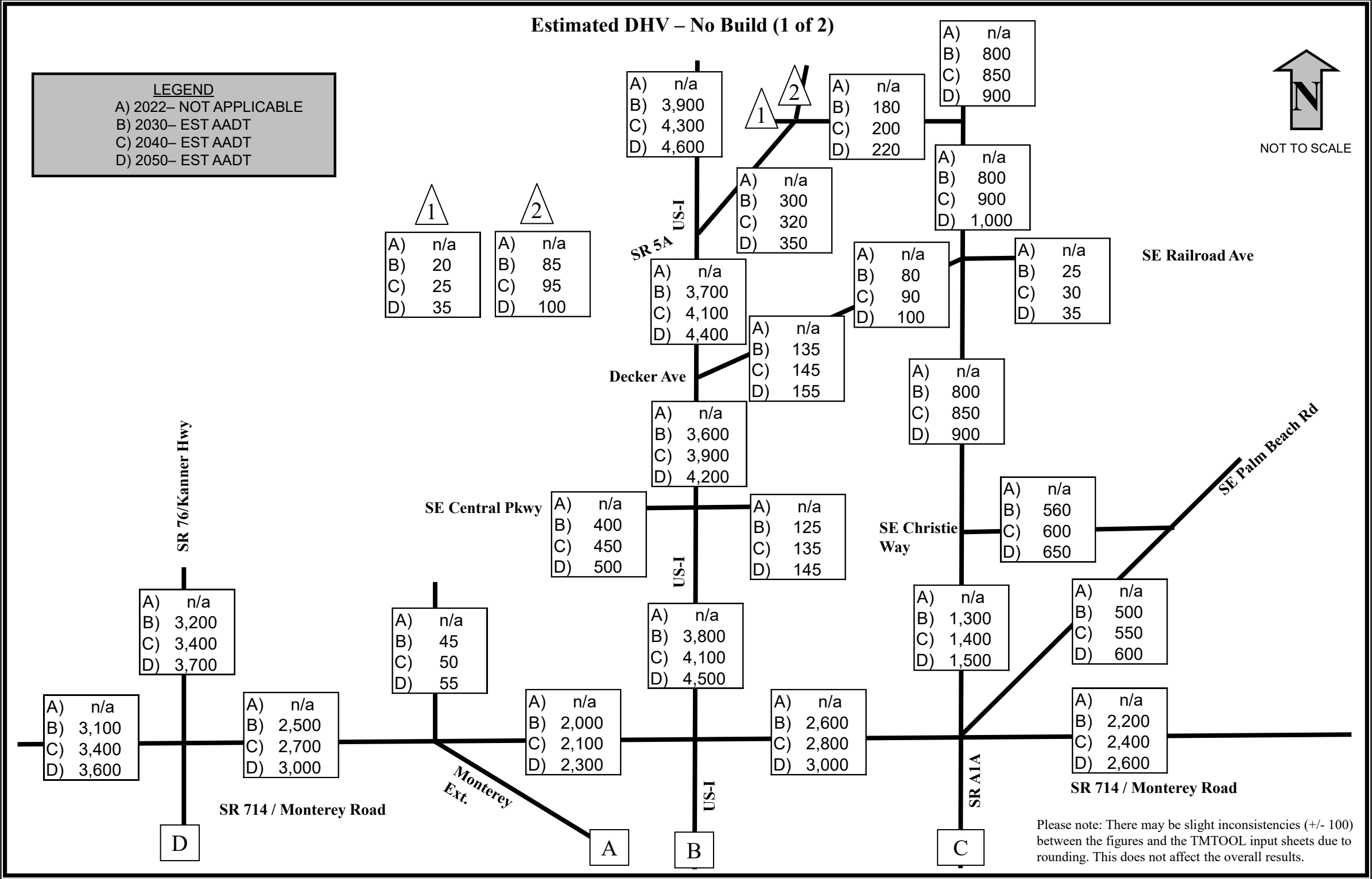




Figure 23: Existing and No-Build DHV Cont'd

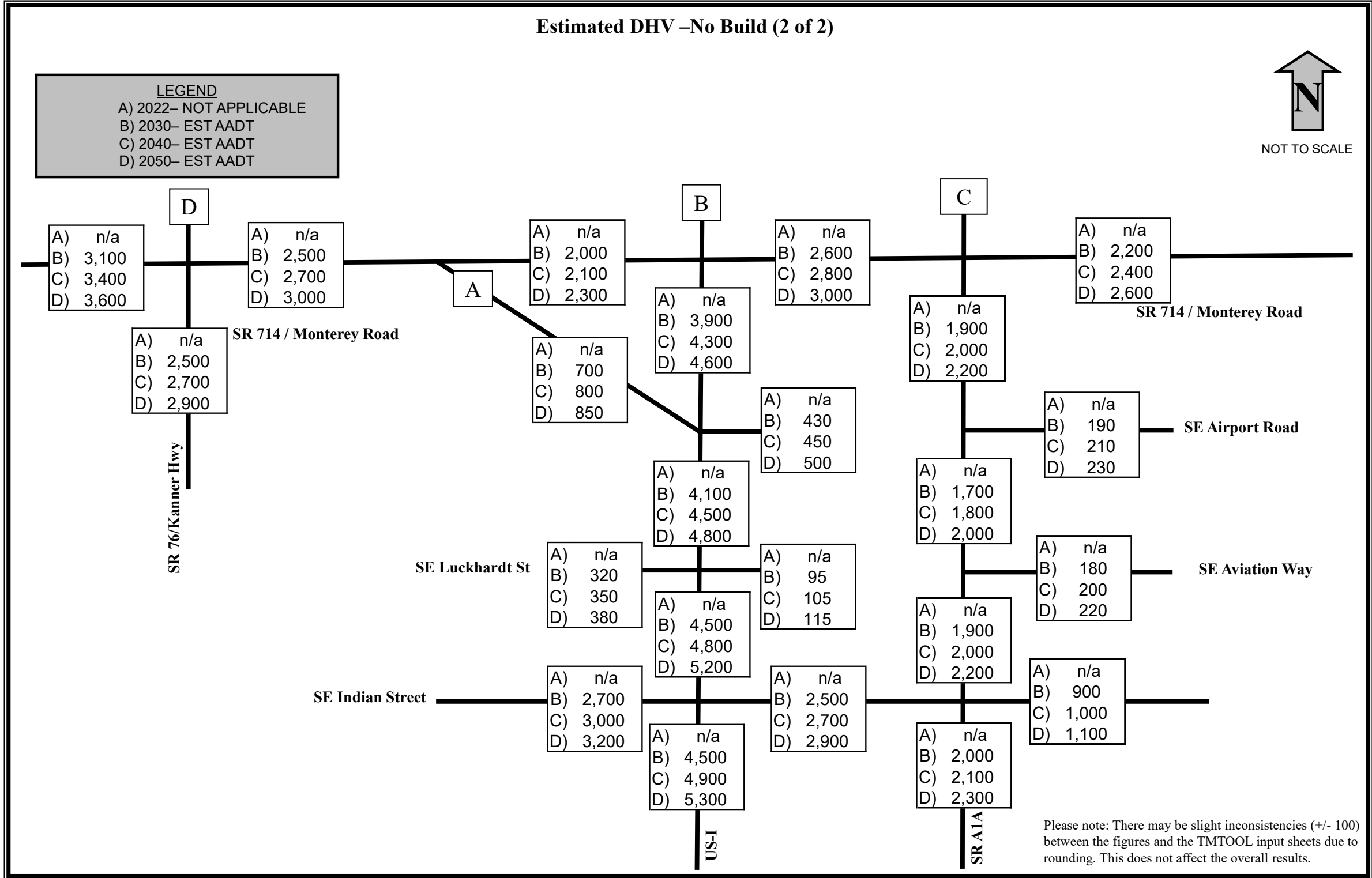
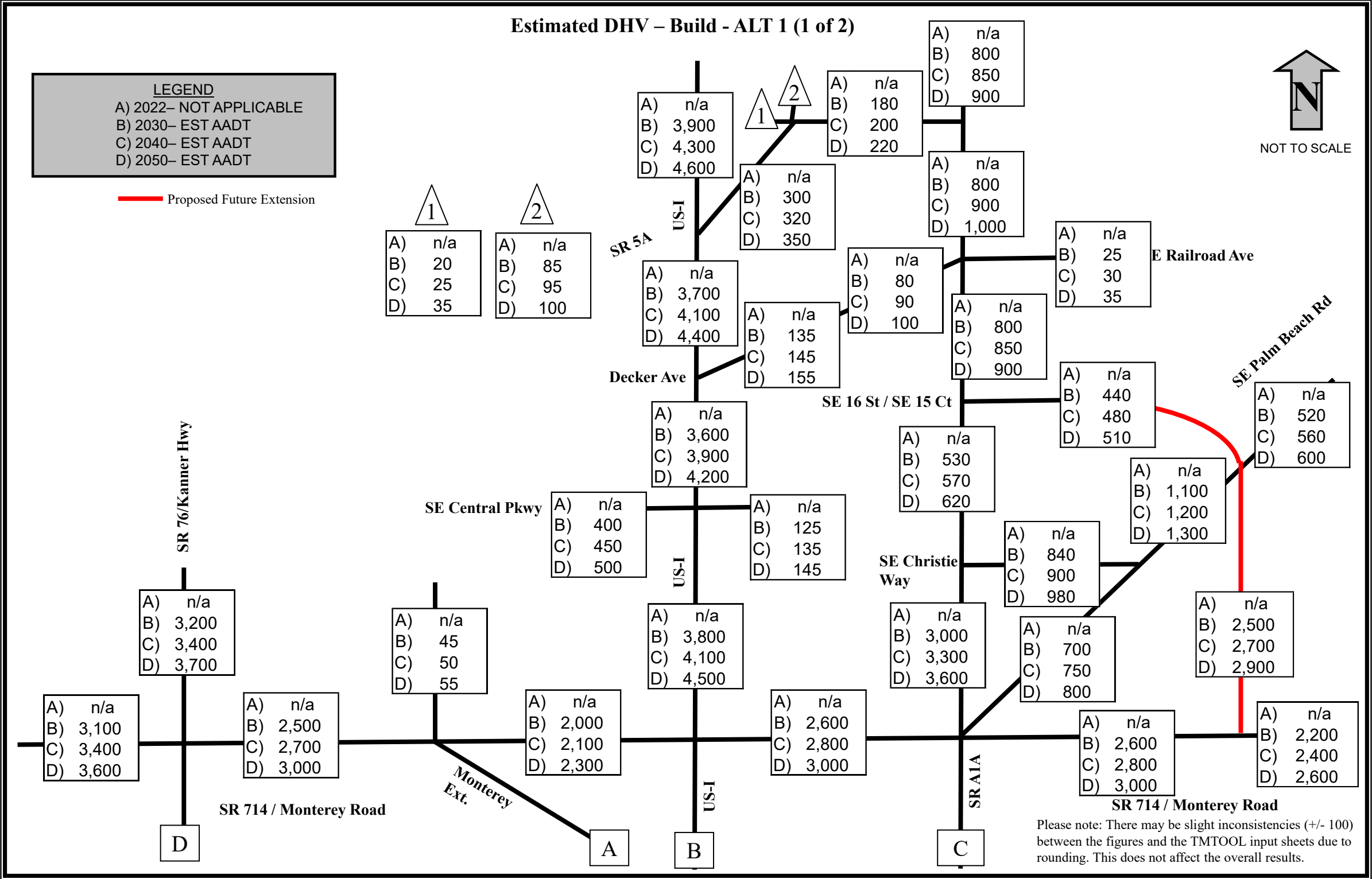




Figure 24: Alternative 1 and 2 - Build DHV



Estimated DHV –Build - ALT 1 (2 of 2)





Figure 25: Alternative 3 - Build DHV

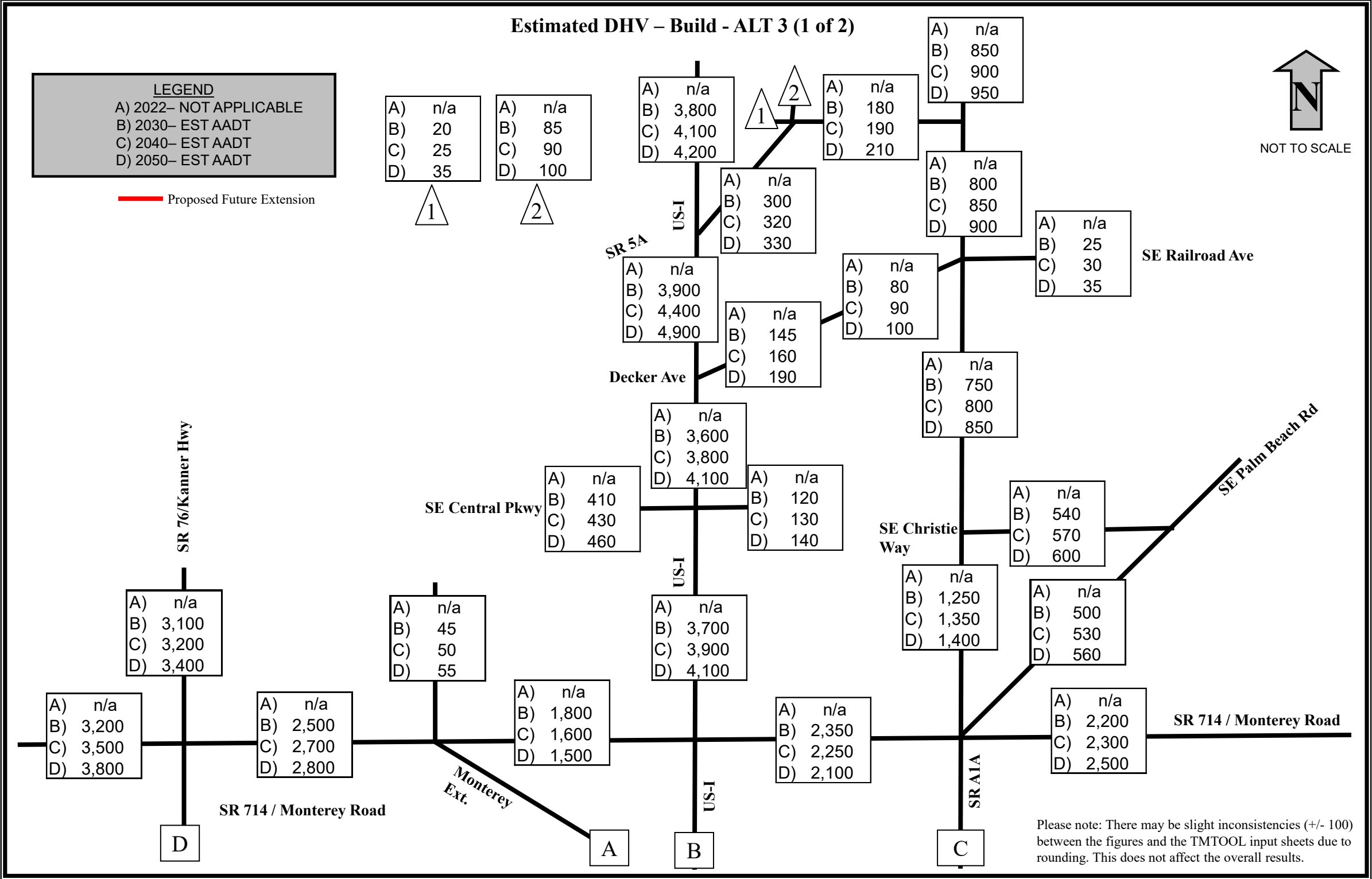




Figure 25: Alternative 3 - Build DHV

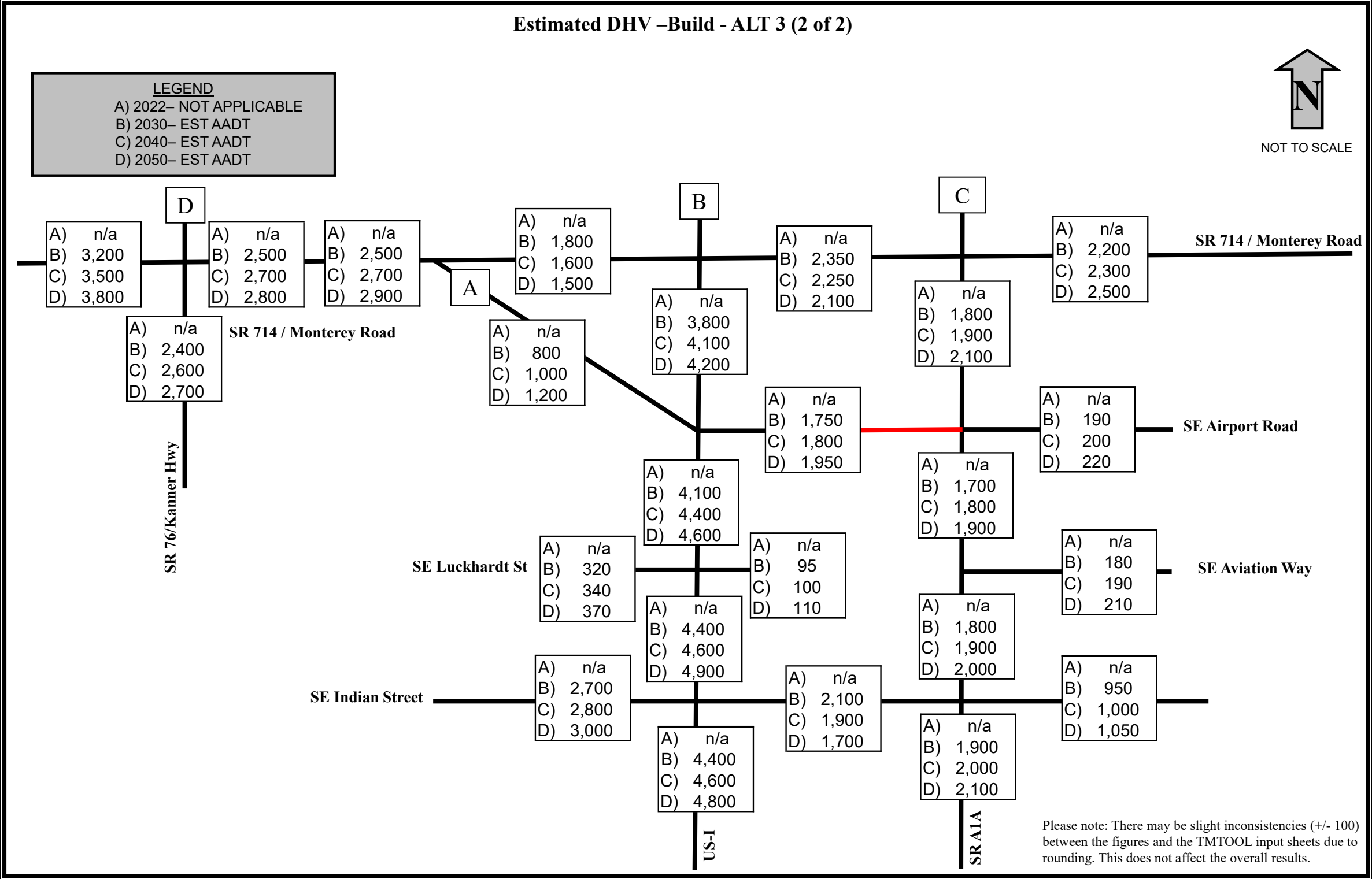
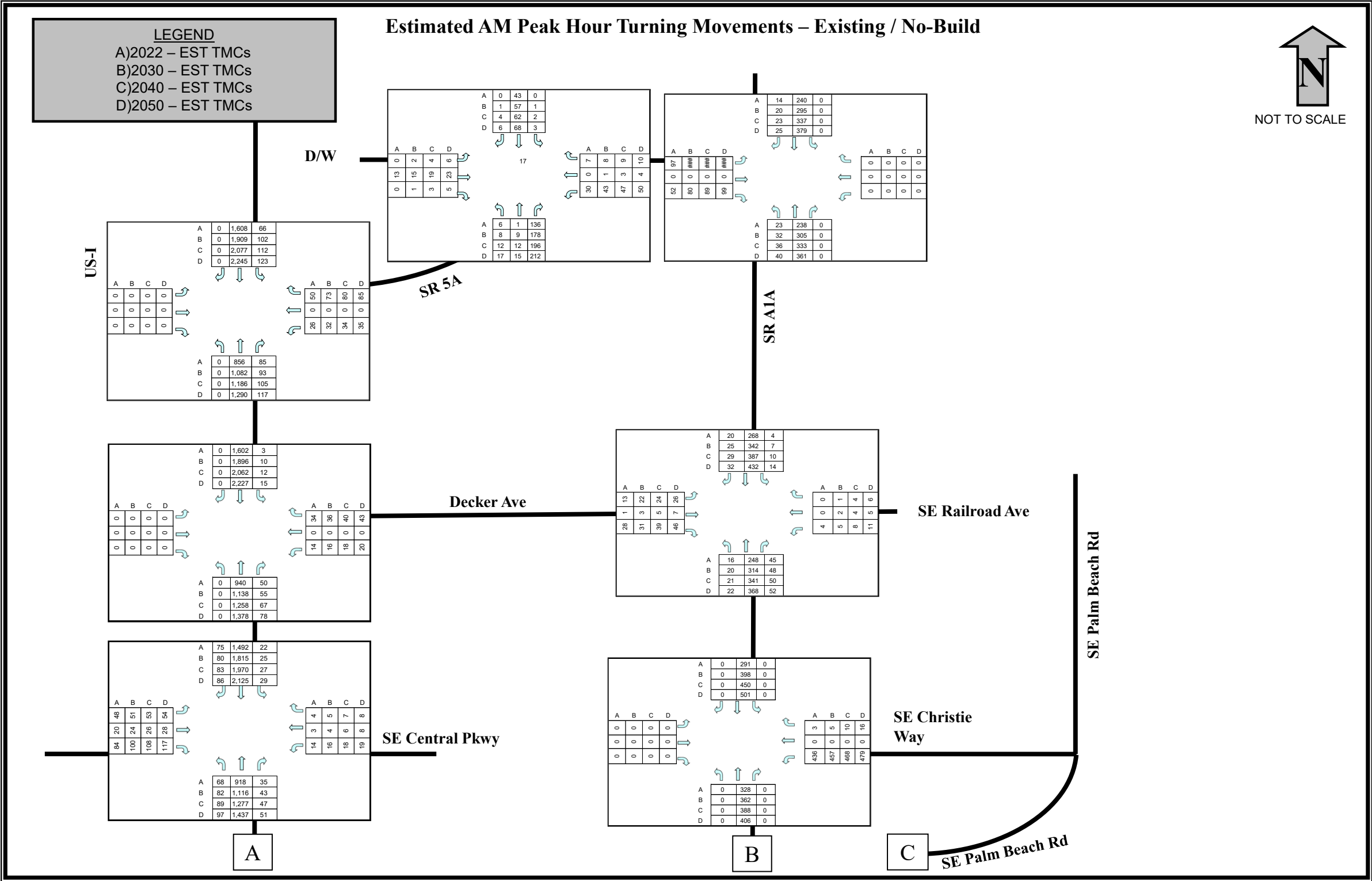




Figure 26: Existing & Future Estimated AM Peak Hour Turning Movement Projections



LEGEND
A)2022 – EST TMCs
B)2030 – EST TMCs
C)2040 – EST TMCs
D)2050 – EST TMCs

Estimated AM Peak Hour Turning Movements – Existing / No-Build

SR 714 / Monterey Road

SR 76/Kanner Hwy

Traffic Break

Monterey Ext.

SE Luckhardt St

SE Indian Street

SE Aviation Way

SE Airport Road

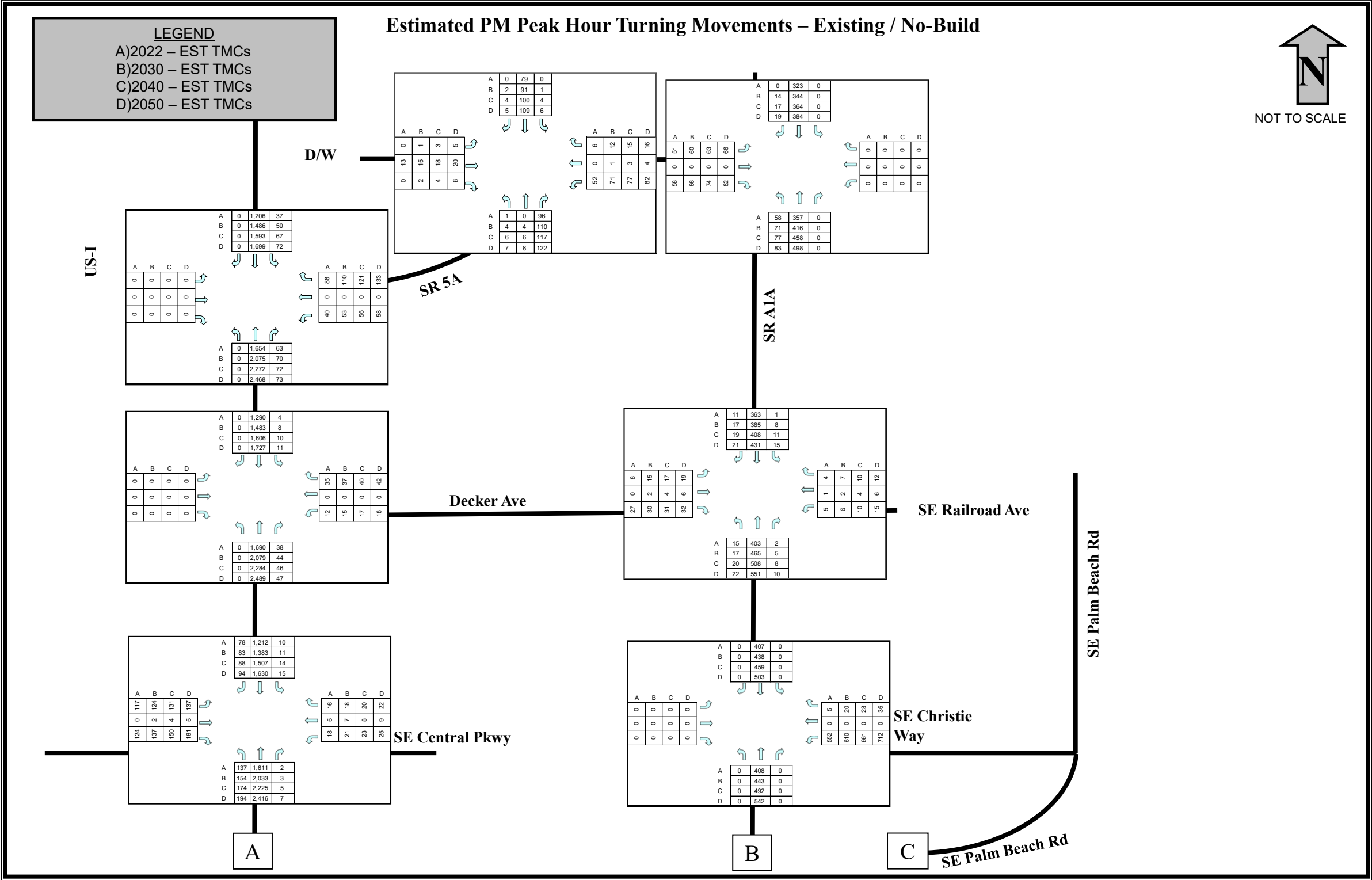
SE Palm Beach Rd

NOT TO SCALE

Proposed Future Extension



Figure 27: Existing & Future Estimated PM Peak Hour Turning Movement Projections



LEGEND

- A)2022 – EST TMCs
- B)2030 – EST TMCs
- C)2040 – EST TMCs
- D)2050 – EST TMCs

Estimated PM Peak Hour Turning Movements – Existing / No-Build

SR 714 / Monterey Road

SR 76/Kanner Hwy

Traffic Break

Monterey Ext.

SE Luckhardt St

SE Indian Street

SE Aviation Way

SE Airport Road

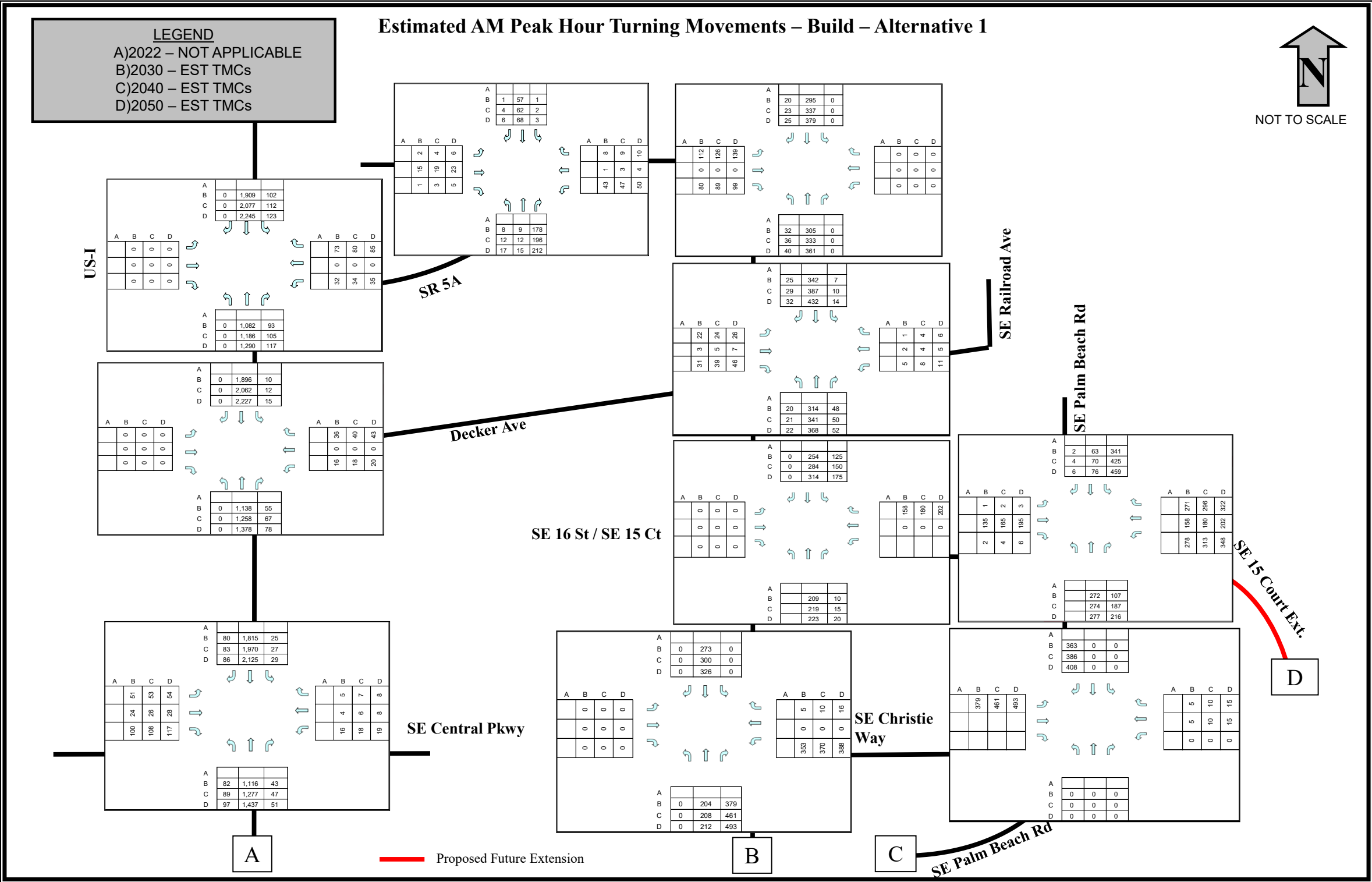
SE Palm Beach Rd

NOT TO SCALE

Proposed Future Extension



Figure 28: Alternative 1 and 2 – Build - Estimated AM Peak Hour Turning Movement Projections



LEGEND
A)2022 – NOT APPLICABLE
B)2030 – EST TMCs
C)2040 – EST TMCs
D)2050 – EST TMCs

Estimated AM Peak Hour Turning Movements – Build – Alternative 1

SR 714 / Monterey Road

SR 76/Kanner Hwy

Traffic Break

Monterey Ext.

SE Luckhardt St

SE Indian Street

SE Aviation Way

SE Airport Road

SE Palm Beach Rd

NOT TO SCALE

North Arrow

Turning Movement Data (Estimated TMCs):

- SR 714 / Monterey Road (US1):**
 - Northbound: A=174, B=1,542, C=193, D=202, 1,618, 254, 229, 1,720, 314
 - Southbound: A=87, B=1,004, C=342, D=160, 1,034, 548, 167, 1,197, 578
- SE Luckhardt St:**
 - Northbound: A=72, B=1,987, C=25, D=74, 2,162, 28, 75, 2,337, 31
 - Southbound: A=63, B=1,324, C=36, D=70, 1,711, 39, 75, 1,897, 41
- SE Indian Street:**
 - Northbound: A=259, B=1,401, C=368, D=293, 1,511, 407, 327, 1,620, 444
 - Southbound: A=437, B=965, C=254, D=478, 1,279, 286, 518, 1,372, 318
- SE Aviation Way:**
 - Northbound: A=304, B=319, C=35, D=337, 341, 41, 370, 363, 46
 - Southbound: A=442, B=517, C=57, D=489, 553, 66, 535, 588, 74
- SE Airport Road:**
 - Northbound: A=0, B=589, C=26, D=0, 625, 29, 0, 662, 31
 - Southbound: A=0, B=1,005, C=27, D=0, 1,070, 29, 0, 1,133, 30



Figure 29: Alternative 1 and 2 – Build - Estimated PM Peak Hour Turning Movement Projections

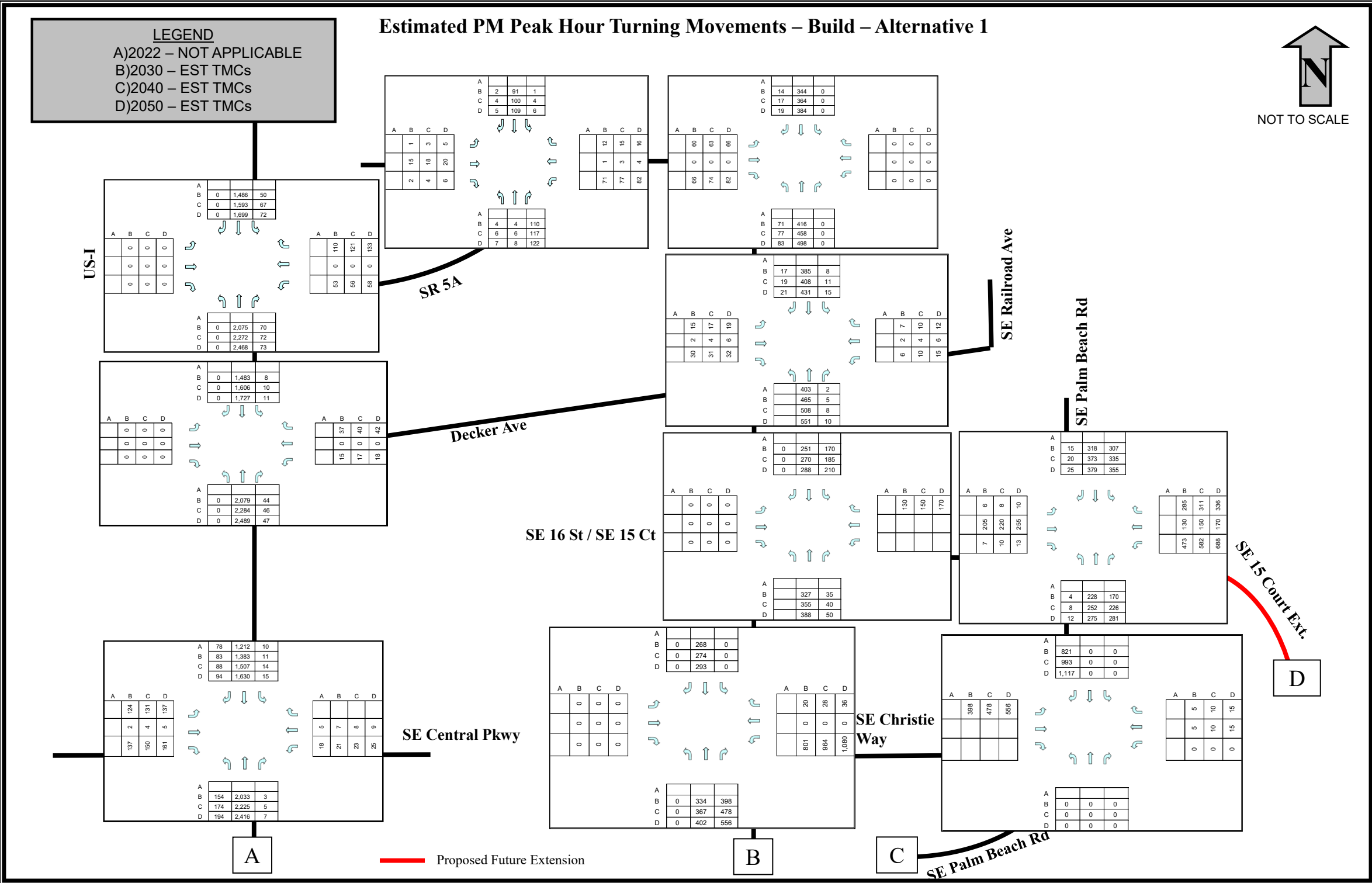




Figure 29: Alternative 1 and 2 – Build - Estimated PM Peak Hour Turning Movement Projections Cont'd

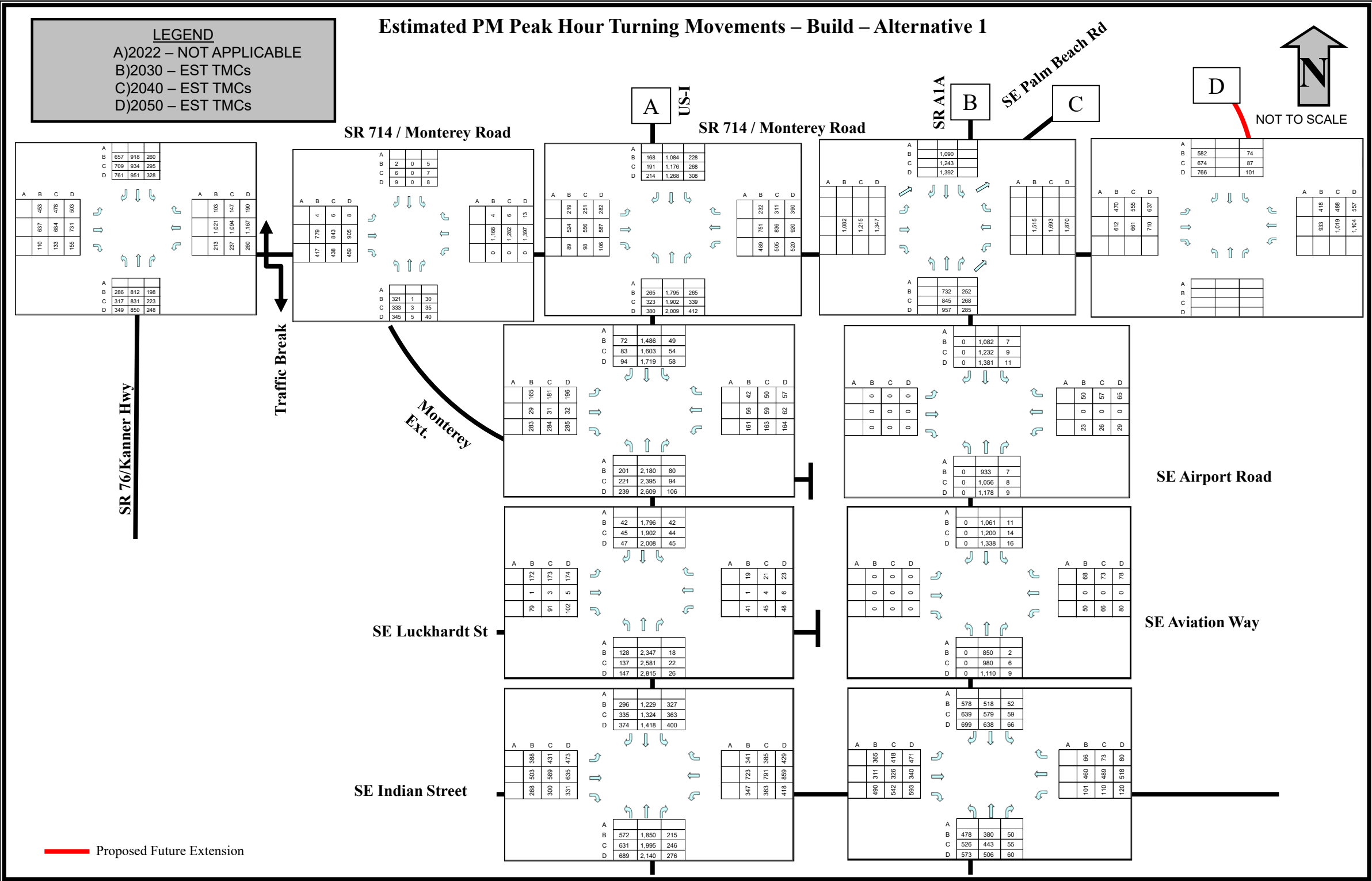




Figure 30: Alternative 3 – Build - Estimated AM Peak Hour Turning Movement Projections

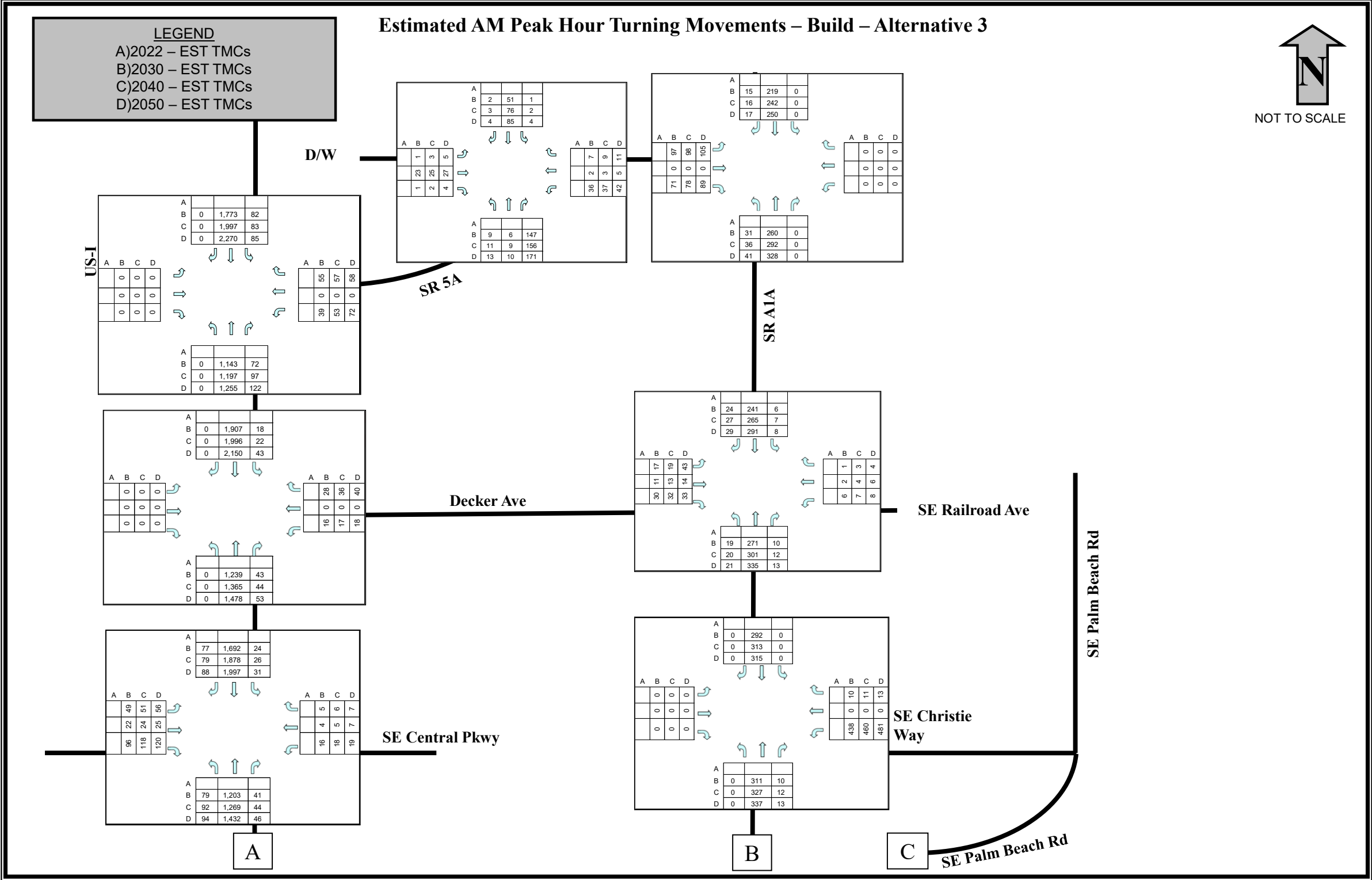




Figure 30: Alternative 3 – Build - Estimated AM Peak Hour Turning Movement Projections Cont'd

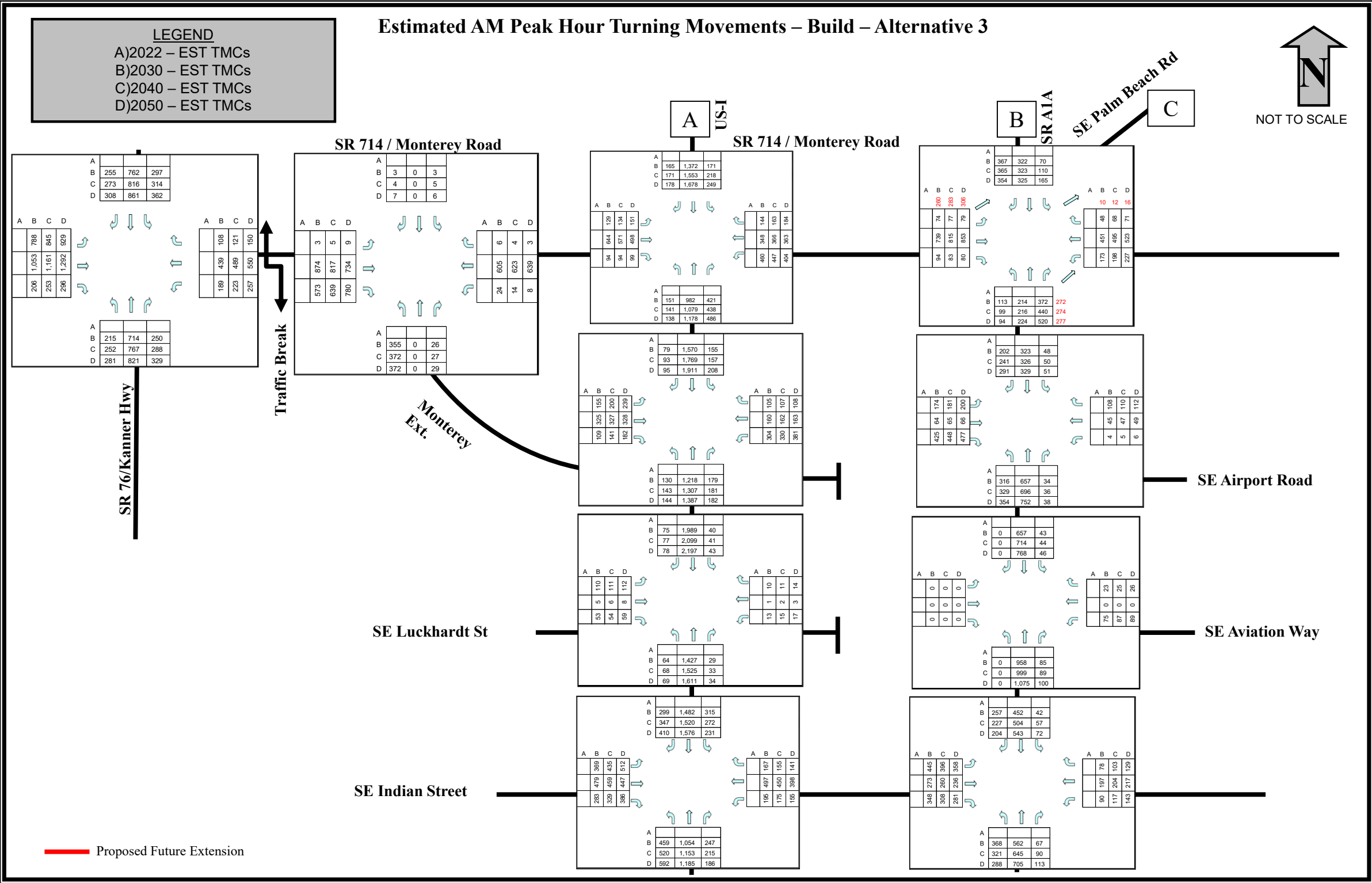




Figure 31: Alternative 3 – Build - Estimated PM Peak Hour Turning Movement Projections

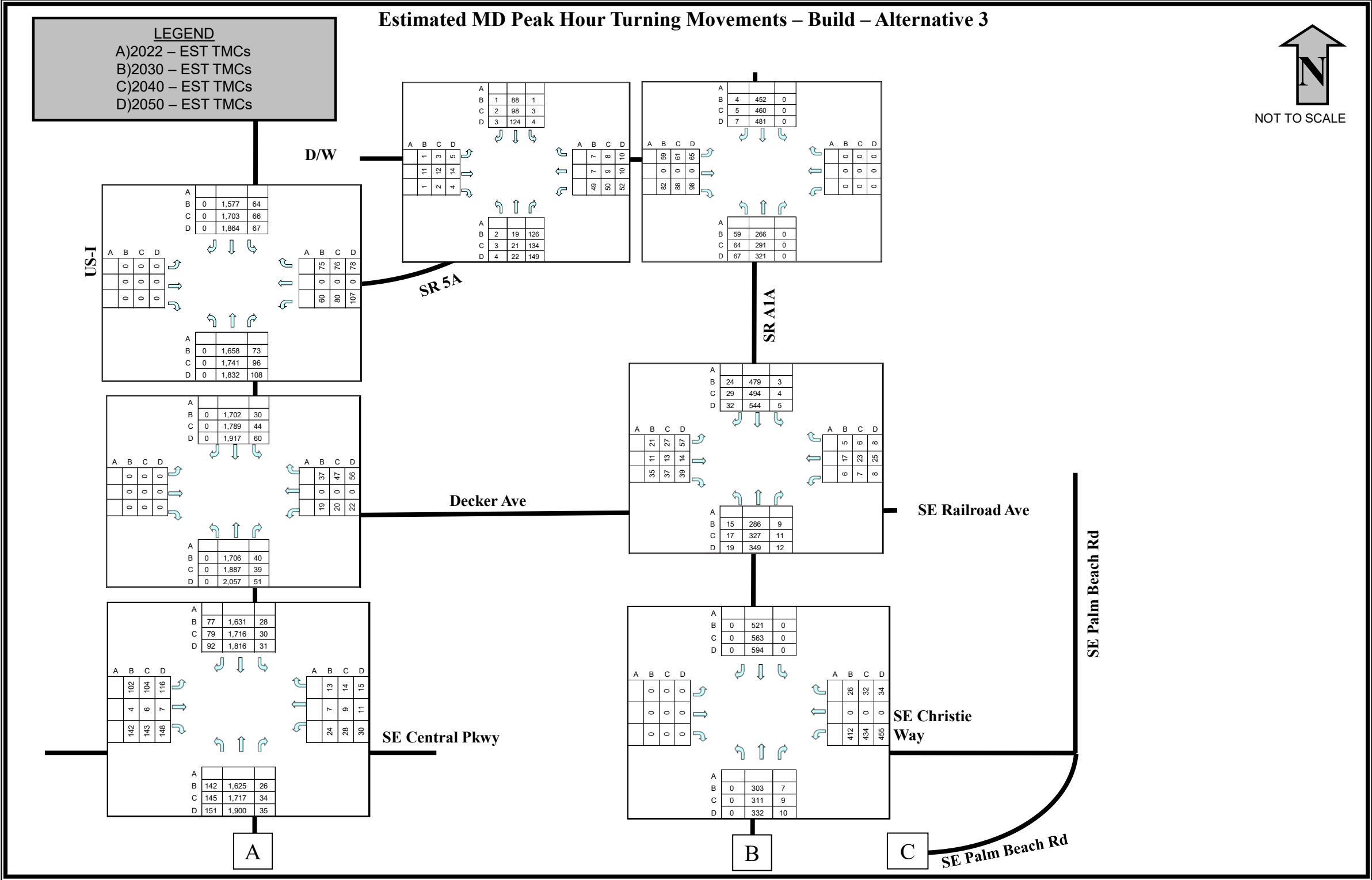
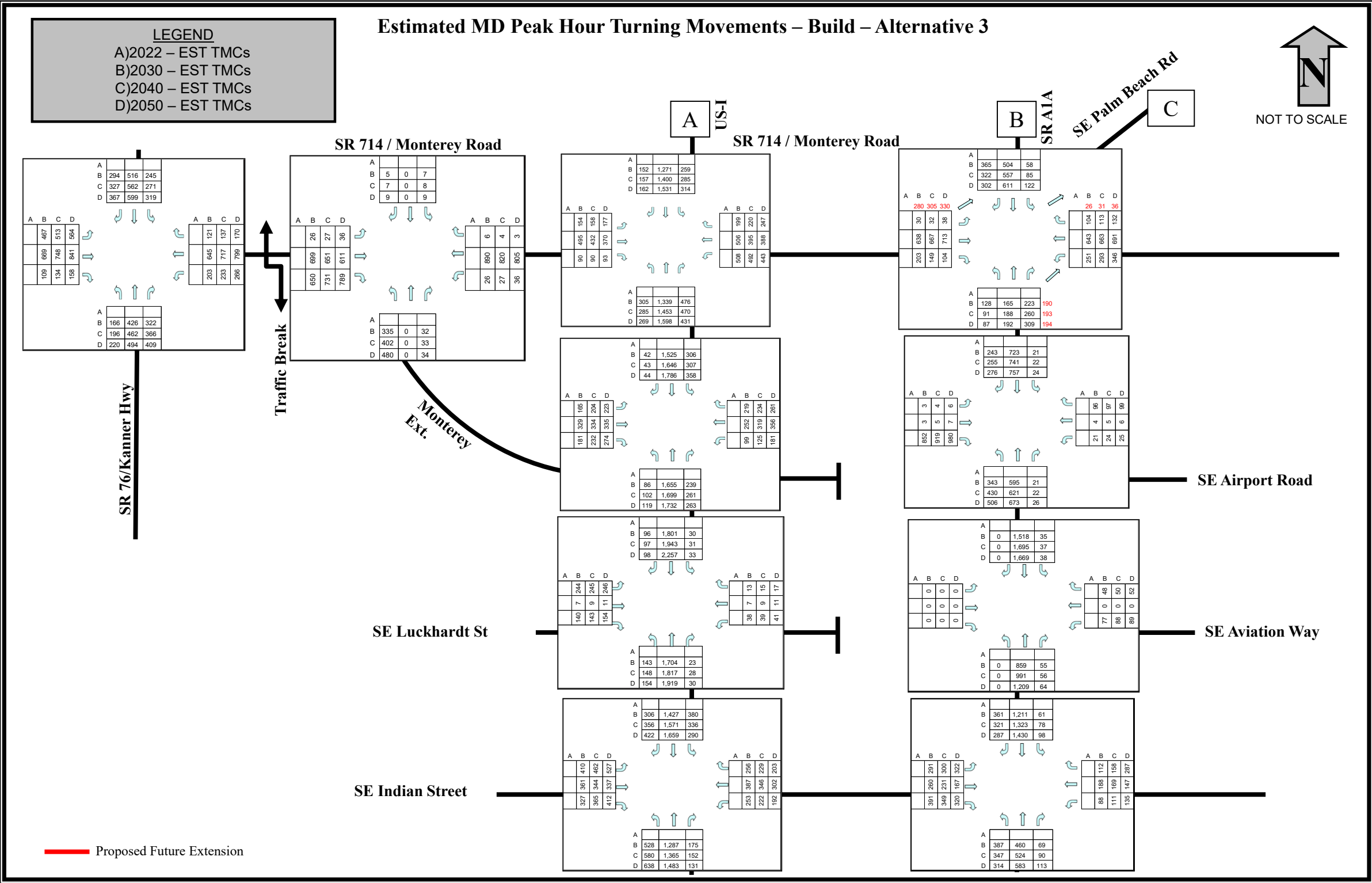




Figure 31: Alternative 3 – Build - Estimated PM Peak Hour Turning Movement Projections Cont'd



7.0 FUTURE YEAR TRAFFIC ANALYSIS

As with the existing conditions, Synchro 12 was used to estimate future vehicular delays and LOS, while also estimating 2050 design year turn-bay queue lengths for comparison to existing storage lengths and for use in estimating proposed turn-bay lengths for new intersections or movements. Synchro reports are provided in **Appendix H**.

Three alternatives are included as part of this analysis:

- 2030/2050 No Build
- 2030/2050 Alternative 1 – Grade separated (bridge) intersection of SR 714/ Monterey Road and CR A1A
- 2030/2050 Alternative 3 – Extension of SE Grumman Boulevard to intersection of SE Airport Road and CR A1A

It needs to be noted that due to differences in Synchro's underlying methods of calculation and/or signal optimization, slight differences in delays were noticed between scenarios even though intersection volumes were identical. Similarly, several intersections demonstrated decreased levels of delay in future year alternatives with higher volumes. These discrepancies were addressed to the extent possible, but several isolated issues remain present in the output.

Additionally, given the study area's high number of intersections and the amount of related data tables, each scenario is presented for both the 2030 opening year and the 2050 design year concurrently.

As mentioned previously, TSM&O scenarios were developed for each of the three alternatives. These scenarios are presented after the results of the alternatives.

7.1 No Build 2030 and 2050 Traffic Analysis

The No Build Synchro analysis was performed by employing the existing conditions Synchro models and applying the forecasted future year 2030 and 2050 No Build turning movement volumes. An area wide signal optimization was performed as well.

Given the increased volumes projected for the future year scenarios, it was expected that some intersections would begin to fail by the 2030 opening year. As shown in **Table 13**, the following intersections were shown to fail by either 2030 or 2050:

- Intersection 1 (100) - SR 714/Monterey Road at SR 76/Kanner Highway (Signalized), which had reached LOS E in the AM peak and LOS F in the PM peak for the 2022 existing conditions analysis, are expected to reach LOS F by 2030 opening year for both peak periods with significant levels of delay.
- Intersection 3 (300) - SR 714/Monterey Road at US 1 (Signalized) was shown to fail by 2030 with 67.4 seconds (LOS E) of delay in the AM peak hour and 84.9 seconds of delay (LOS F) in the PM peak hour. Most approaches exceed LOS D within this period.
- Intersection 4 (400) - SR 714/Monterey Road at SR A1A (Signalized) was shown to operate at LOS D in 2030, but by 2050 will reach LOS E in the AM peak and LOS F in the PM peak.
- Intersection 10 (1000) - SR A1A at Indian Street (Signalized) was shown to operate at LOS D in the 2030 AM Peak (LOS E in PM Peak), but by 2050 will reach LOS F in the PM peak hour.
- Intersection 11 (1100) - US 1 at SR 5A (Unsignalized) which failed in the existing conditions analysis, is expected to see westbound left-turn delays of almost 4,300 seconds by 2030 and exceeds Synchro's calculation limits by 2050.
- Intersection 12 (1200) - US 1 at SE Contractors Way (Unsignalized), which failed in the existing conditions PM peak analysis, will fail during both peak periods in 2050.

- Intersection 14 (1400) - US 1 at SE Monterey Road Extension/Grumman Boulevard (Signalized) will fail during the PM peak hour in 2050.
- Intersection 16 (1600) - US 1 at Indian Street (Signalized) failed in the existing conditions analysis during the PM peak hour and will fail during both peak hours by 2030.

THIS AREA WAS INTENTIONALLY LEFT BLANK

Table 13 – No Build 2030 and 2050 Peak Hour Delays and LOS

	Movement/ Approach	AM Peak Period				PM Peak Period			
		2030		2050		2030		2050	
		Opening Year		Design Year		Opening Year		Design Year	
		No-Build		No-Build		No-Build		No-Build	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 100 SR 714/Monterey Road at SR 76/Kanner Highway (Signalized)	EBL	125	F	287.4	F	204.8	F	340.2	F
	EBT	50.5	D	104.3	F	44.1	D	61.1	E
	EBR	33.8	C	42.2	D	37.7	D	27.7	C
	<i>EB Approach</i>	77.3	E	165.8	F	104.2	F	158.5	F
	WBL	102.2	F	229.5	F	68.3	E	71.2	E
	WBT	75	E	95.6	F	75.8	E	198.5	F
	WBR	76.1	E	96.9	F	76.6	E	205.6	F
	<i>WB Approach</i>	81.6	F	133.5	F	74.9	E	181	F
	NBL	98.1	F	178.7	F	179.9	F	323.2	F
	NBT	132.2	F	176.4	F	60.5	E	90.9	F
	NBR	147	F	186.8	F	66.9	E	105.4	F
	<i>NB Approach</i>	130.8	F	179.6	F	88.5	F	150.5	F
	SBL	186.8	F	297	F	68.1	E	120.3	F
	SBT	76.9	E	92.9	F	80.3	F	82.8	F
	SBR	22.9	C	28.4	C	297.6	F	417.3	F
	<i>SB Approach</i>	94.8	F	134.7	F	156.4	F	213.5	F
	Overall Intersection	94.7	F	156.3	F	110.6	F	179.6	F
Intersection 200 SR 714/Monterey Road at Monterey Road Extension (Signalized)	EBL	31.9	C	28.3	C	28.9	C	34.5	C
	EBT	41.9	D	35.7	D	24.3	C	25.3	C
	<i>EB Approach</i>	41.9	D	35.7	D	24.4	C	25.4	C
	WBT	24.2	C	40.3	D	41.7	D	62.5	E
	WBR	24.1	C	40.2	D	41.5	D	62.5	E
	<i>WB Approach</i>	24.2	C	40.3	D	41.6	D	62.5	E
	NBL	78.2	E	75.7	E	70.1	E	71.1	E
	NBT	0	A	0	A	0	A	0	A
	NBR	61.8	E	59.1	E	44.9	D	44.1	D
	<i>NB Approach</i>	77.2	E	74.3	E	68	E	68	E
	Overall Intersection	37.3	D	40.3	D	39.8	D	50.8	D
Intersection 300 SR 714/Monterey Road at SR 5/US 1 (Signalized)	EBL	42.8	D	50.2	D	115.6	F	182.6	F
	EBT	61	E	115.4	F	66.5	E	65.3	E
	EBR	22.6	C	46.8	D	55.8	E	53.7	D
	<i>EB Approach</i>	56.8	E	98.7	F	78.3	E	98	F
	WBL	124.1	F	266	F	224.1	F	215.1	F
	WBT-R	61.4	E	62	E	62.4	E	71.1	E
	<i>WB Approach</i>	85.5	F	156.8	F	126.2	F	123.1	F
	NBL	71.9	E	166.4	F	47.2	D	192.2	F
	NBT	48.1	D	70.7	E	106.5	F	185.3	F
	NBR	56.9	E	287.9	F	23.4	C	47.8	D
	<i>NB Approach</i>	51.7	D	143.6	F	90.3	F	166	F
	SBL	84.6	F	170	F	65.2	E	266.2	F
	SBT	80.1	F	131.6	F	43.3	D	35.8	D
	SBR	46.9	D	27.5	C	33.5	C	27.1	C
	<i>SB Approach</i>	77.5	E	126.4	F	45.5	D	74.4	E
	Overall Intersection	67.4	E	131.3	F	84.9	F	124.3	F
Intersection 400 SR 714/Monterey Road at CRA14/SE Dixie Highway (Signalized)	EBL	26.8	C	16.4	B	45.4	D	166.7	F
	EBT-R	18.3	B	23.3	C	18.6	B	69	E
	<i>EB Approach</i>	20.6	C	21.7	C	26.3	C	95.4	F
	WBL	44	D	77.4	E	77.7	E	203.5	F
	WBT-R	50.9	D	65.9	E	69.6	E	146	F
	<i>WB Approach</i>	49.3	D	68.3	E	71.5	E	160.4	F
	NBL	62.6	E	321.5	F	93	F	221.9	F
	NBT	58.2	E	62.7	E	60.4	E	81.4	F
	NBR	76.3	E	84.7	F	52.1	D	59.7	E
	<i>NB Approach</i>	69.1	E	122.9	F	57.6	E	99.8	F
	SBL	44.3	D	51.8	D	73.3	E	122.2	F
	SBT	47	D	54.5	D	73.4	E	134.8	F
	SBR	99	F	137.1	F	72.5	E	72.4	E
	<i>SB Approach</i>	73	E	99.6	F	73.1	E	110.4	F
	Overall Intersection	48.6	D	69	E	58	E	119.3	F

Table 13 – No Build 2030 and 2050 Peak Hour Delays and LOS, Cont'd

	Movement/ Approach	AM Peak Period				PM Peak Period			
		2030 Opening Year		2050 Design Year		2030 Opening Year		2050 Design Year	
		No-Build		No-Build		No-Build		No-Build	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 500 SR A1A at Decker Avenue/SE Railroad Avenue (Unsignalized)	EB	15.1	C	19.5	C	16.3	C	22.4	C
	EB Approach	15.1	C	19.5	C	16.3	C	22.4	C
	WB	17.6	C	21.7	C	17.9	C	26.2	D
	WB Approach	17.6	C	21.7	C	17.9	C	26.2	D
	NB	0.4	A	8.5	A	0.3	A	0.3	A
	NB Approach	0.4	A	8.5	A	0.3	A	0.3	A
	SB	0.2	A	8.3	A	0.2	A	0.3	A
	SB Approach	0.2	A	8.3	A	0.2	A	0.3	A
	Overall Intersection	17.6	C	21.7	C	17.9	C	26.2	D
Intersection 600 SR A1A at Christie Way (Signalized)	WBL	28.8	C	57.1	E	32.6	C	48.5	D
	WBR	15.6	B	33.4	C	13.1	B	20	B
	WB Approach	28.6	C	56.3	E	32	C	47.2	D
	NBT	12.2	B	17.3	B	16.1	B	17.4	B
	NBR	-	-	-	-	-	-	-	-
	NB Approach	12.2	B	17.3	B	16.1	B	17.4	B
	SBT	12	B	18.1	B	16.4	B	29.6	C
	SB Approach	12	B	18.1	B	16.4	B	29.6	C
	Overall Intersection	18.4	B	31.4	C	22.8	C	33.2	C
Intersection 700 SR A1A at SE Aviation Way (Signalized)	WBL	81.2	F	90.5	F	76.7	E	81.9	F
	WBT	0	A	0	A	0	A	0	A
	WBR	68.9	E	73	E	89.9	F	91.1	F
	WB Approach	78.3	E	85.9	F	84.3	F	86.4	F
	NBL	0	A	0	A	0	A	0	A
	NBT	6.4	A	7.3	A	4.7	A	5.9	A
	NBR	6.4	A	7.3	A	4.7	A	5.9	A
	NB Approach	6.4	A	7.3	A	4.7	A	5.9	A
	SBL	0.2	A	5.2	A	2.9	A	3.9	A
	SBT	0.1	A	2.4	A	0.3	A	0.5	A
	SBR	0	A	0	A	0	A	0	A
	SB Approach	0.4	A	2.6	A	0.4	A	0.5	A
	Overall Intersection	8.2	A	10.1	B	7	A	8	A
Intersection 800 SR A1A at SE Airport Road (Signalized)	EBL	-	-	-	-	-	-	-	-
	EBT	-	-	-	-	-	-	-	-
	EBR	-	-	-	-	-	-	-	-
	EB Approach	-	-	-	-	-	-	-	-
	WBL	75.3	E	75.8	E	75.9	E	74	E
	WBT	-	-	-	-	-	-	-	-
	WBR	82.4	F	83.6	F	89.1	F	87.4	F
	WB Approach	79.8	E	80.5	F	84.9	F	83.2	F
	NBL	-	-	-	-	-	-	-	-
	NBT	21.3	C	35.7	D	27.1	C	17.2	B
	NBR	12.1	B	22	C	16	B	7.7	A
	NB Approach	21.1	C	35.4	D	27.1	C	17.1	B
	SBL	11.3	B	17.5	B	12.5	B	14.3	B
	SBT	1.3	A	1.5	A	2.2	A	3	A
	SBR	-	-	-	-	-	-	-	-
	SB Approach	1.7	A	2.2	A	2.3	A	3.1	A
	Overall Intersection	14.8	B	24.2	C	16.2	B	12.1	B

Table 13 – No Build 2030 and 2050 Peak Hour Delays and LOS, Cont'd

	Movement/ Approach	AM Peak Period				PM Peak Period			
		2030		2050		2030		2050	
		Opening Year		Design Year		Opening Year		Design Year	
		No-Build		No-Build		No-Build		No-Build	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 900 SRA1A between US 1 and A1A (Unsignalized)	EBL	18.9	C	33.6	D	20.3	C	28.1	D
	<i>EB Approach</i>	18.9	C	33.6	D	20.3	C	28.1	D
	NBL	1	A	8.4	A	8.3	A	8.5	A
	NBT	0	A	0	A	0	A	0	A
	<i>NB Approach</i>	8.1	A	8.4	A	1.2	A	1.2	A
	Overall Intersection	18.9	C	33.6	D	20.3	C	28.1	D
Intersection 1000 SRA1A at SE Indian Street (Signalized)	EBL	46.8	D	57.6	E	92.2	F	179.5	F
	EBT	33	C	36.2	D	52.5	D	54	D
	EBR	29.8	C	32.8	C	45.7	D	64.7	E
	<i>EB Approach</i>	37.7	D	44.2	D	62.1	E	100.6	F
	WBL	44.4	D	44.1	D	47.4	D	52.7	D
	WBT	52.9	D	72.9	E	70.9	E	84.9	F
	WBR	-	-	-	-	-	-	-	-
	<i>WB Approach</i>	51.7	D	69.5	E	67.1	E	79.6	E
	NBL	90.4	F	168.3	F	63.4	E	221.6	F
	NBT	36	D	38.9	D	22.1	C	24.7	C
	<i>NB Approach</i>	59.7	E	96.8	F	43.9	D	123.8	F
	SBL	41.7	D	49.4	D	35.4	D	32.4	C
	SBT	55.3	E	63.7	E	46.3	D	44.5	D
	SBR	48.2	D	66.7	E	98.4	F	168.5	F
	<i>SB Approach</i>	51.3	D	64.3	E	72	E	105.7	F
	Overall Intersection	49	D	67.4	E	61.6	E	104.6	F
Intersection 1100 US 1 at SR 5A (NB-Unsignalized, TSM&O-Signalized)	EBR	0	A	0	A	0	A	0	A
	<i>EB Approach</i>	0	A	0	A	0	A	0	A
	WBL	392.3	F	1458.7	F	4279.3	F	*	F
	WBR	17.9	C	22.7	C	75.6	F	244.1	F
	<i>WB Approach</i>	132	F	441.5	F	1442.4	F	*	F
	NBL	0	A	0	A	0	A	0	A
	NBTR	-	-	-	-	-	-	0	A
	<i>NB Approach</i>	0	A	0	A	0	A	0	A
	SBL	22.2	C	35.5	E	91.2	F	391.4	F
	SBTR	-	-	-	-	-	-	0	A
	<i>SB Approach</i>	22.2	C	35.5	E	91.2	F	391.4	F
	Overall Intersection	132	F	441.5	F	1442.4	F	*	F
Intersection 1200 US 1 at Decker Avenue (NB-Unsignalized, TSM&O-Signalized)	WBL	64.9	F	154.7	F	290.7	F	1182.9	F
	WBR	16.5	C	20.2	C	34.4	D	56.2	F
	<i>WB Approach</i>	31.4	D	62.9	F	108.3	F	394.2	F
	NB	0	F	0	F	0.0	F	0.0	F
	<i>NB Approach</i>	0	F	0	F	0	A	0	A
	SBL	18.5	C	24.5	C	51.5	F	98.3	F
	SBT	0	A	0	A	0	A	0	A
	<i>SB Approach</i>	18.5	C	24.5	C	0.3	A	22.2	C
	Overall Intersection	31.4	D	62.9	F	108.3	F	394.2	F

*: Delay exceeded Synchro limits.

Table 13 – No Build 2030 and 2050 Peak Hour Delays and LOS, Cont'd

	Movement/ Approach	AM Peak Period				PM Peak Period			
		2030		2050		2030		2050	
		Opening Year		Design Year		Opening Year		Design Year	
		No-Build		No-Build		No-Build		No-Build	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 1300 US 1 at Central Parkway (Signalized)	EBL	391.7	F	503.9	F	1066.4	F	1249.8	F
	EBT	0	A	0	A	0	A	0	A
	EBR	46.5	D	52.6	D	53.4	D	54.9	D
	<i>EB Approach</i>	193.6	F	238.5	F	538.7	F	614.2	F
	WBL	71.8	E	91.9	F	100.4	F	128.7	F
	WBT	0	A	0	A	0	A	0	A
	WBR	42.9	D	48	D	48.2	D	48.5	D
	<i>WB Approach</i>	66.2	E	81.8	F	80	E	97.1	F
	NBL	48.5	D	57	E	32.6	C	40.2	D
	NBT	0.4	A	0.2	A	2.4	A	0.4	A
	NBR	0.8	A	0.4	A	2.9	A	0.7	A
	<i>NB Approach</i>	3.7	A	3.8	A	4.7	A	3.4	A
	SBL	21.5	C	20	B	23.2	C	27.8	C
	SBT	32.4	C	34.7	C	39.6	D	40	D
	SBR	19.7	B	18.3	B	28.5	C	26.4	C
Intersection 1400 US 1 at Monterey Road Extension/Grumman Blvd (Signalized)	<i>SB Approach</i>	31.8	C	33.9	C	38.8	D	39.2	D
	Overall Intersection	30.1	C	32.6	C	53.6	D	56.9	E
	EBL	48.9	D	48.2	D	51.8	D	59.6	E
	EBT	47.9	D	46.6	D	51.1	D	51	D
	EBR	78.4	E	79.6	E	91.6	F	91.8	F
	<i>EB Approach</i>	67	E	66.6	E	75.4	E	76.9	E
	WBL	48.2	D	45.8	D	51.9	D	51.9	D
	WBT	0	A	0	A	0	A	0	A
	WBR	51	D	49.1	D	54.2	D	53.7	D
	<i>WB Approach</i>	49.8	D	47.7	D	52.6	D	52.7	D
	NBL	58.6	E	72.2	E	41.2	D	67.3	E
	NBT-R	43.7	D	51.7	D	83.6	F	149.6	F
	<i>NB Approach</i>	44.8	D	53	D	80	E	142.7	F
	SBL	37.6	D	54	D	63.2	E	63.5	E
	SBT-R	30.1	C	37.8	D	6.5	A	13.6	B
Intersection 1500 US 1 at Luckhardt Street (Signalized)	<i>SB Approach</i>	30.2	C	38.1	D	8.3	A	15.2	B
	Overall Intersection	39.7	D	47.2	D	54.4	D	90	F
	EBL	69.4	E	61.7	E	72.1	E	72.4	E
	EBT	0	A	0	A	0	A	0	A
	EBR	63	E	56.7	E	60	E	60.2	E
	<i>EB Approach</i>	67.2	E	59.7	E	68.2	E	67.7	E
	WBL	65.4	E	59.4	E	65.5	E	67.4	E
	WBT	0	A	0	A	0	A	0	A
	WBR	59.8	E	53	D	57	E	56.2	E
	<i>WB Approach</i>	63.3	E	59.6	E	62.7	E	63.2	E
	NBL	45.4	D	42	D	47.6	D	54.8	D
	NBT	36.2	D	30.3	C	19.3	B	25.9	C
	NBR	25.9	C	17.9	B	9.6	A	10.2	B
	<i>NB Approach</i>	36.4	D	30.5	C	20.6	C	27.2	C
	SBL	20.3	C	32.7	C	38.4	D	38.5	D
	SBT	31.2	C	44.8	D	35	C	33.7	C
	SBR	17.8	B	17.6	B	21.1	C	18.9	B
	<i>SB Approach</i>	30.6	C	43.8	D	34.8	C	33.5	C
	Overall Intersection	34.7	C	38.8	D	29.4	C	32.2	C

Table 13 – No Build 2030 and 2050 Peak Hour Delays and LOS, Cont'd

	Movement/ Approach	AM Peak Period				PM Peak Period			
		2030		2050		2030		2050	
		Opening Year		Design Year		Opening Year		Design Year	
		No-Build		No-Build		No-Build		No-Build	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 1600 US 1 at SE Indian Street (Signalized)	EBL	83	F	139.5	F	132.2	F	165.9	F
	EBT	54.3	D	68.2	E	66.9	E	65.4	E
	EBR	50.8	D	148.6	F	66.1	E	67.9	E
	<i>EB Approach</i>	61	E	109.4	F	88.6	F	99	F
	WBL	78.1	E	89	F	64.3	E	74.4	E
	WBT	62.4	E	70.1	E	71.9	E	90.9	F
	WBR	60.6	E	73.2	E	68.6	E	143.3	F
	<i>WB Approach</i>	65.6	E	75.3	E	69.2	E	100	F
	NBL	61.5	E	173.4	F	177.3	F	281.3	F
	NBT	41.9	D	72.1	E	116.5	F	214.5	F
	NBR	41.8	D	59.1	E	41.8	D	47.3	D
	<i>NB Approach</i>	47	D	94	F	123.6	F	214.4	F
	SBL	95.7	F	77.7	E	144.7	F	387.1	F
	SBT	122.2	F	98.2	F	59.8	E	124.2	F
	SBR	36.9	D	27.7	C	55.5	E	54	D
	<i>SB Approach</i>	106.4	F	84.7	F	74.1	E	160.2	F
	Overall Intersection	73.4	E	90.8	F	94	F	157.6	F
Intersection 1700 SR 5A between US 1 and ALA (Unsignalized)	EB	10.9	B	11.3	B	10.4	B	10.7	F
	<i>EB Approach</i>	10.9	B	11.3	B	10.4	B	10.7	B
	WB	10.1	B	10.9	B	10.2	B	11	B
	<i>WB Approach</i>	10.1	B	10.9	B	10.2	B	11	B
	NB	7.4	A	7.4	A	0.3	A	0.4	A
	<i>NB Approach</i>	7.4	A	7.4	A	0.3	A	0.4	A
	SB	7.6	A	7.7	A	0.1	A	0.4	F
	<i>SB Approach</i>	7.6	A	7.7	A	0.1	A	0.4	A
	Overall Intersection	10.9	B	11.3	B	10.4	B	10.7	B
Intersection 2200 SR 714/Monterey Rd at Willoughby Blvd (Signalized)	EBL	31.9	C	22.5	C	16.6	B	48	D
	EBTR	164.9	F	131.8	F	107.5	F	167.4	F
	<i>EB Approach</i>	163.9	F	130.2	F	105.4	F	164	F
	WBL	90.5	F	47.6	D	43.8	D	72.2	E
	WBTR	34.9	C	17.1	B	73.1	E	40.8	D
	<i>WB Approach</i>	45.8	D	24.2	C	67.2	E	47.8	D
	NBL	75.9	E	72.4	E	80.2	F	78.8	E
	NBT	75.5	E	72.4	E	79.9	E	79.3	E
	NBR	67	E	66.5	E	32.5	C	21.3	C
	<i>NB Approach</i>	70.3	E	68.6	E	56	E	50.5	D
	SBLTR	42	D	78	E	79.7	E	79.9	E
	<i>SB Approach</i>	42	D	78	E	79.7	E	79.9	E
	Overall Intersection	109.1	F	84.9	F	77.9	E	85.1	F
Intersection 2300 SR 714/Monterey Rd at SE Ray's Way (NB-Unsignalized, TSM&O-Signalized)	EBL	10.4	B	11.3	B	16.1	C	19.7	C
	EBTR	0	A	0	A	3.4	A	7.5	A
	EBR	-	-	-	-	-	-	-	A
	<i>EB Approach</i>	0.7	A	0.7	A	4.1	A	8.2	A
	WBL	-	-	-	-	-	-	-	A
	WBTR	0	A	0	A	0	A	0	A
	<i>WB Approach</i>	0	A	0	A	0	A	0	A
	NBL	-	-	-	-	-	-	-	-
	NBTR	-	-	-	-	-	-	-	-
	<i>NB Approach</i>	-	A	-	A	-	A	-	A
	SBL	17.2	C	13.8	B	53.5	F	682.5	F
	SBTR (SBT)	-	-	-	-	-	-	-	-
	SBR	0	A	0	A	0	A	0	A
	<i>SB Approach</i>	17.2	C	13.8	B	53.5	F	682.5	F
	Overall Intersection	17.2	C	13.8	B	53.5	F	682.5	F

7.2 Alternative 1 2030 and 2050 Traffic Analysis

The Alternative 1 Synchro analysis was performed by modifying the existing conditions Synchro models and applying the forecasted future year 2030 and 2050 Alternative 1 turning movement volumes.

As discussed previously, the existing intersection at SR 714/Monterey Road and CR A1A was eliminated through a grade separation as part of this alternative. As such, Intersection 4 (400), is replaced by a new signalized intersection (1800) on SR 714/Monterey Road, located east of Intersection 4, and a new signalized intersection (21), located at the existing intersection of SE Palm Beach Road and SE 16 Street. Christy Way was also modified from the current one-way westbound to two-way operation, which modifies Intersection 6 (600) - SR A1A at SE Christie Way (Signalized). Finally, the existing intersection at CR A1A and SE 16 Street (2000) was also signalized. Alternative 1's layout is shown in **Figure 32**.

Figure 32: Alternative 1 Layout

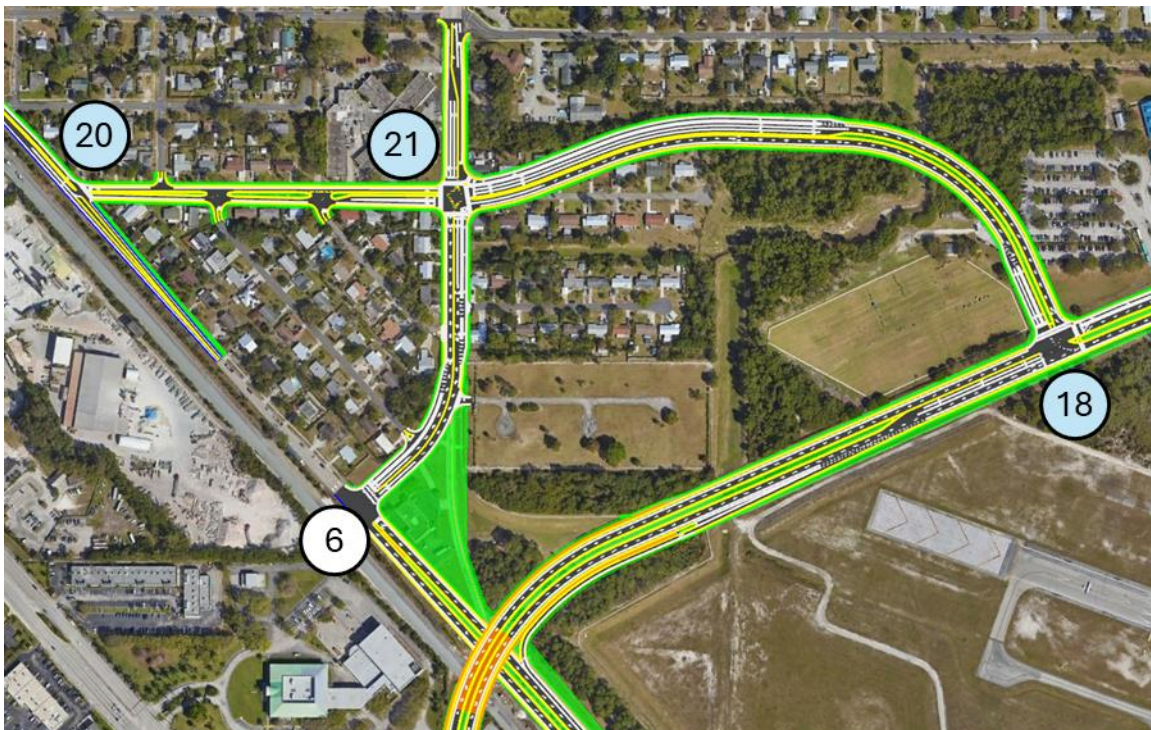


Table 14 includes the intersections affected by the modifications included in Alternative 1. The other study intersections experience similar delays/LOS as in the No-Build alternative. A complete table with all intersections and all alternatives is provided in **Appendix I**. As shown, the delays and LOS associated with Intersection 4 (400) - SR 714/Monterey Road at SR A1A (Signalized) are eliminated. Intersection 6 (600) - SR A1A at SE Christie Way (Signalized), shows improvements during the peak period operation, despite the switch to two-way and additional turning movements. New Intersection 18 (1800) is expected to exceed LOS D operations in 2050 with 50.1 seconds (LOS D) of delay in the AM peak and 50.6 seconds of delay (LOS D) in the PM peak. Intersection 20 (2000), a conversion to signalized operation, is expected to operate at LOS A through the year 2050. Finally, Intersection 21, a new signalized intersection will operate with 48.1 seconds of delay (LOS D) in the 2050 AM peak hour, and 48.3 seconds of delay (LOS D) in the PM peak hour.

THIS AREA WAS INTENTIONALLY LEFT BLANK



Table 14 – Alternative 1 2030 and 2050 Peak Hour Delays and LOS

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		No-Build		Alternative 1		No-Build		Alternative 1		No-Build		Alternative 1		No-Build		Alternative 1	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 400 SR 714/Monterey Road at CR A1A/SE Dixie Highway (Signalized)	EBL	26.8	C	-	-	16.4	B	-	-	45.4	D	-	-	166.7	F	-	-
	EBT-R	18.3	B	-	-	23.3	C	-	-	18.6	B	-	-	69	E	-	-
	EB Approach	20.6	C	-	-	21.7	C	-	-	26.3	C	-	-	95.4	F	-	-
	WBL	44	D	-	-	77.4	E	-	-	77.7	E	-	-	203.5	F	-	-
	WBT-R	50.9	D	-	-	65.9	E	-	-	69.6	E	-	-	146	F	-	-
	WB Approach	49.3	D	-	-	68.3	E	-	-	71.5	E	-	-	160.4	F	-	-
	NBL	62.6	E	-	-	321.5	F	-	-	93	F	-	-	221.9	F	-	-
	NBT	58.2	E	-	-	62.7	E	-	-	60.4	E	-	-	81.4	F	-	-
	NBR	76.3	E	-	-	84.7	F	-	-	52.1	D	-	-	59.7	E	-	-
	NB Approach	69.1	E	-	-	122.9	F	-	-	57.6	E	-	-	99.8	F	-	-
	SBL	44.3	D	-	-	51.8	D	-	-	73.3	E	-	-	122.2	F	-	-
	SBT	47	D	-	-	54.5	D	-	-	73.4	E	-	-	134.8	F	-	-
	SBR	99	F	-	-	137.1	F	-	-	72.5	E	-	-	72.4	E	-	-
	SB Approach	73	E	-	-	99.6	F	-	-	73.1	E	-	-	110.4	F	-	-
	Overall Intersection	48.6	D	-	-	69	E	-	-	58	E	-	-	119.3	F	-	-
Intersection 600 SR A1A at Christie Way (Signalized)	WBL	28.8	C	32.4	C	57.1	E	32.3	C	32.6	C	26.8	C	48.5	D	26.7	C
	WBR	15.6	B	27.1	C	33.4	C	26.8	C	13.1	B	18.4	B	20	B	14.4	B
	WB Approach	28.6	C	32.4	C	56.3	E	32.1	C	32	C	26.6	C	47.2	D	26.3	C
	NBT	12.2	B	4.7	A	17.3	B	5	A	16.1	B	11.4	B	17.4	B	17.5	B
	NBR	-	-	6.2	A	-	-	7	A	-	-	13.8	B	-	-	32.1	C
	NB Approach	12.2	B	5.6	A	17.3	B	6.9	A	16.1	B	12.7	B	17.4	B	26	C
	SBT	12	B	4.7	A	18.1	B	5.2	A	16.4	B	10.2	B	29.6	C	14.6	B
	SB Approach	12	B	4.7	A	18.1	B	5.2	A	16.4	B	10.2	B	29.6	C	14.6	B
	Overall Intersection	18.4	B	13.1	B	31.4	C	13.5	B	22.8	C	18.6	B	33.2	C	24.7	C
Intersection 1800 Monterey Road & Christy Way Ext (Signalized)	EBL	-	-	68.7	E	-	-	68.6	E	-	-	69.4	E	-	-	71.7	E
	EBT	-	-	12.6	B	-	-	22.4	C	-	-	9.3	A	-	-	17.2	B
	EB Approach	-	-	28	C	-	-	34.7	C	-	-	30.5	C	-	-	39	D
	WBT	-	-	24.7	C	-	-	36.1	D	-	-	27.7	C	-	-	64.3	E
	WBR	-	-	8	A	-	-	10.6	B	-	-	9.2	A	-	-	15.3	B
	WB Approach	-	-	19.7	B	-	-	28.9	C	-	-	22	C	-	-	47.9	D
	SBL	-	-	50.8	D	-	-	45.7	D	-	-	52.5	D	-	-	41.2	D
	SBR	-	-	74.8	E	-	-	123.2	F	-	-	40.5	D	-	-	81.7	F
	SB Approach	-	-	72.2	E	-	-	114.5	F	-	-	41.8	D	-	-	77	E
	Overall Intersection	-	-	34.3	C	-	-	50.1	D	-	-	29.3	C	-	-	50.6	D
Intersection 2000 SR A1A & SE 16th Street (Signalized)	WBR	-	-	34.2	C	-	-	32.9	C	-	-	32.1	C	-	-	30.5	C
	WB Approach	-	-	34.2	C	-	-	32.9	C	-	-	32.1	C	-	-	30.5	C
	NBT	-	-	2.8	A	-	-	3.4	A	-	-	4	A	-	-	5.3	A
	NBR	-	-	0	A	-	-	0	A	-	-	0	A	-	-	0	A
	NB Approach	-	-	2.8	A	-	-	3.4	A	-	-	4	A	-	-	5.3	A
	SBL	-	-	1	A	-	-	1.1	A	-	-	1.1	A	-	-	1.2	A
	SBT	-	-	2.3	A	-	-	3.6	A	-	-	3.5	A	-	-	4.4	A
	SB Approach	-	-	2.3	A	-	-	2.7	A	-	-	2.6	A	-	-	3.1	A
	Overall Intersection	-	-	9	A	-	-	9.4	A	-	-	7.3	A	-	-	8.2	A
Intersection 2100 SE Palm Beach Rd & SE 16th Street/Christy Way Ext (Signalized)	EBL	-	-	29.9	C	-	-	29.6	C	-	-	28.2	C	-	-	29.5	C
	EBTR	-	-	37.2	D	-	-	38.8	D	-	-	40.4	D	-	-	54.9	D
	EB Approach	-	-	37.1	D	-	-	38.6	D	-	-	40	D	-	-	54	D
	WBL	-	-	69.5	E	-	-	75.8	E	-	-	73.6	E	-	-	77.9	E
	WBT	-	-	26.1	C	-	-	25.5	C	-	-	20.6	C	-	-	18.5	B
	WBR	-	-	22.2	C	-	-	19.5	B	-	-	17.7	B	-	-	14.7	B
	WB Approach	-	-	41.7	D	-	-	43.4	D	-	-	47.9	D	-	-	51.7	D
	NBL	-	-	0	A	-	-	0	A	-	-	19.9	B	-	-	27.8	C
	NBT	-	-	19.4	B	-	-	25.7	C	-	-	25.5	C	-	-	40.8	D
	NBR	-	-	16.6	B	-	-	25.4	C	-	-	14.8	B	-	-	19.4	B
	NB Approach	-	-	18.6	B	-	-	25.6	C	-	-	21	C	-	-	29.9	C
	SBL	-	-	84.3	F	-	-	92.3	F	-	-	77.5	E	-	-	89.5	F
	SBTR	-	-	7.6	A	-	-	9.6	A	-	-	15.4	B	-	-	24	C
	SB Approach	-	-	72.1	E	-	-	79.7	E	-	-	45.2	D	-	-	54.7	D
	Overall Intersection	-	-	43.5	D	-	-	48.1	D	-	-	41.2	D	-	-	48.3	D

THIS AREA WAS INTENTIONALLY LEFT BLANK

7.3 Alternative 3 2030 and 2050 Traffic Analysis

The Alternative 3 Synchro analysis was performed by modifying the existing conditions Synchro models and applying the forecasted future year 2030 and 2050 Alternative 3 turning movement volumes.

As discussed previously, under Alternative 3 the existing intersection 4 (400) - SR 714/Monterey Road and CR A1A was maintained. The existing intersection 8 (800) - CR A1A and SE Airport Road was modified by extending SE Grumman Boulevard to connect to the existing intersection at CR A1A and SE Airport Road, as a west leg. Alternative 3's layout is shown in **Figure 33**.

Figure 33: Alternative 3 Layout



Table 15 includes the intersections affected by the modifications included in Alternative 3. As shown, the delays and LOS associated with Intersection 4 (400) - SR 714/Monterey Road at SR A1A (Signalized) are similar to No Build, but are generally lower due to the decreased volumes at this intersection. Intersection 8

(800) - SR A1A at Airport Road (Signalized) is expected to operate at LOS E through 2050. Due to increased volumes, Intersection 14 (1400) - US 1 at SE Monterey Road Extension/Grumman Boulevard (Signalized), is expected to operate at LOS E by the year 2030, in the AM Peak hour.

THIS AREA WAS INTENTIONALLY LEFT BLANK



Table 15 – Alternative 3 2030 and 2050 Peak Hour Delays and LOS

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		No-Build		Alternative 3		No-Build		Alternative 3		No-Build		Alternative 3		No-Build		Alternative 3	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 400 SR 714/Monterey Road at CR A1A/SE Dixie Highway (Signalized)	EBL	26.8	C	10.5	B	16.4	B	29.1	C	45.4	D	88.1	F	166.7	F	92.4	F
	EBT-R	18.3	B	23.5	C	23.3	C	30	C	18.6	B	35.8	D	69	E	34.6	C
	EB Approach	20.6	C	19.8	B	21.7	C	29.8	C	26.3	C	52.3	D	95.4	F	54.4	D
	WBL	44	D	42.3	D	77.4	E	52.9	D	77.7	E	36.5	D	203.5	F	90.8	F
	WBT-R	50.9	D	54.5	D	65.9	E	56.6	E	69.6	E	88.4	F	146	F	144.8	F
	WB Approach	49.3	D	51.4	D	68.3	E	55.6	E	71.5	E	83.7	F	160.4	F	133.5	F
	NBL	62.6	E	56.3	E	321.5	F	49.9	D	93	F	99.7	F	221.9	F	54.8	D
	NBT	58.2	E	53	D	62.7	E	51.8	D	60.4	E	83.2	F	81.4	F	95.3	F
	NBR	76.3	E	70.7	E	84.7	F	78.4	E	52.1	D	43.8	D	59.7	E	47.1	D
	NB Approach	69.1	E	57.2	E	122.9	F	67.6	E	57.6	E	67.5	E	99.8	F	66.7	E
	SBL	44.3	D	47	D	51.8	D	54.9	D	73.3	E	70.5	E	122.2	F	370.2	F
	SBT	47	D	48.7	D	54.5	D	46.2	D	73.4	E	54.9	D	134.8	F	113.5	F
	SBR	99	F	114.7	F	137.1	F	100.4	F	72.5	E	52.6	D	72.4	E	48.5	D
	SB Approach	73	E	80.5	F	99.6	F	70.7	E	73.1	E	52.4	D	110.4	F	128.1	F
	Overall Intersection	48.6	D	48.8	D	69	E	53.7	D	58	E	63.5	E	119.3	F	99.7	F
Intersection 800 SR A1A at SE Airport Road (Signalized)	EBL	-	-	53.6	D	-	-	53.1	D	-	-	52.9	D	-	-	54	D
	EBT	-	-	57.8	E	-	-	57.8	E	-	-	54.3	D	-	-	54.7	D
	EBR	-	-	0	A	-	-	0	A	-	-	0	A	-	-	0	A
	EB Approach	-	-	54.7	D	-	-	54.3	D	-	-	53.1	D	-	-	54.1	D
	WBL	75.3	E	38.4	D	75.8	E	37.2	D	75.9	E	36.9	D	74	E	33.2	C
	WBT	-	-	0	A	-	-	0	A	-	-	0	A	-	-	0	A
	WBR	82.4	F	54.5	D	83.6	F	54.1	D	89.1	F	56	E	87.4	F	54	D
	WB Approach	79.8	E	54.1	D	80.5	F	53.5	D	84.9	F	47.6	D	83.2	F	46.4	D
	NBL	-	-	59.7	E	-	-	62.2	E	-	-	63.2	E	-	-	339.2	F
	NBT	21.3	C	45.1	D	35.7	D	45.8	D	27.1	C	46.2	D	17.2	B	47	D
	NBR	12.1	B	19.2	B	22	C	17.2	B	16	B	16.7	B	7.7	A	13.9	B
	NB Approach	21.1	C	48.8	D	35.4	D	49.9	D	27.1	C	47.7	D	17.1	B	112.4	F
	SBL	11.3	B	25.4	C	17.5	B	28.8	C	12.5	B	26.8	C	14.3	B	31.5	C
	SBT	1.3	A	18.5	B	1.5	A	20.3	C	2.2	A	16	B	3	A	18.6	B
	SBR	-	-	0	A	-	-	0	A	-	-	0	A	-	-	0	A
	SB Approach	1.7	A	19.4	B	2.2	A	21.4	C	2.3	A	16.4	B	3.1	A	19.2	B
	Overall Intersection	14.8	B	43.9	D	24.2	C	45.3	D	16.2	B	38.8	D	12.1	B	70.1	E
Intersection 1400 US 1 at Monterey Road Extension/Grumman Blvd (Signalized)	EBL	48.9	D	52.8	D	48.2	D	59.8	E	51.8	D	78.4	E	59.6	E	131.4	F
	EBT	47.9	D	66.7	E	46.6	D	61.3	E	51.1	D	51	D	51	D	50.8	D
	EBR	78.4	E	64.6	E	79.6	E	68.5	E	91.6	F	78.8	E	91.8	F	79.2	E
	EB Approach	67	E	62.7	E	66.6	E	62.6	E	75.4	E	68.3	E	76.9	E	84.5	F
	WBL	48.2	D	173.3	F	45.8	D	249.7	F	51.9	D	53	D	51.9	D	127.5	F
	WBT	0	A	55.7	E	0	A	52.3	D	0	A	47.9	D	0	A	49.4	D
	WBR	51	D	20.1	C	49.1	D	21.2	C	54.2	D	37.5	D	53.7	D	104	F
	WB Approach	49.8	D	111.9	F	47.7	D	162.6	F	52.6	D	44.6	D	52.7	D	94.1	F
	NBL	58.6	E	88	F	72.2	E	115.9	F	41.2	D	51	D	67.3	E	58	E
	NBT-R	43.7	D	33.2	C	51.7	D	35.2	D	83.6	F	26.7	C	149..6	F	39.1	D
	NB Approach	44.8	D	38.5	D	53	D	42.8	D	80	E	29	C	142.7	F	41.1	D
	SBL	37.6	D	53	D	54	D	60.5	E	63.2	E	64.2	E	63.5	E	149	F
	SBT-R	30.1	C	52.8	D	37.8	D	60.8	E	6.5	A	37.8	D	13.6	B	42.9	D
	SB Approach	30.2	C	52.8	D	38.1	D	60.8	E	8.3	A	39.3	D	15.2	B	55.9	E
	Overall Intersection	39.7	D	57.6	E	47.2	D	68.7	E	54.4	D	40.6	D	90	F	60	E

THIS AREA WAS INTENTIONALLY LEFT BLANK

7.4 TSM&O Alternative Analyses

As discussed previously, each of the project alternatives were reanalyzed with various TSM&O intersection improvements included alongside the project specific improvements. The following sections provide the results of each of these alternatives.

7.4.1 No Build TSM&O Alternative Analysis

The No Build TSM&O analysis was performed by improving the previous No Build Synchro models with TSM&O intersection improvements and signal optimization as well.

As shown in **Table 16** the study intersections demonstrated improvements when the TSM&O improvements were applied. While several intersections are still projected to reach LOS F conditions by 2050 under the TSM&O scenario, they are generally greatly improved as compared to the initial No Build alternative. The following intersections will require extensive right-of-way acquisitions to increase the intersection's capacity to allow for levels of service better than LOS F:

- Intersection 3 (300) – SR 714/Monterey Road at SR 5/US 1
- Intersection 4 (400) – SR 714/Monterey Road at CR A1A
- Intersection 10 (1000) – CR A1A at Indian Street
- Intersection 16 (1600) – SR 5/US 1 at Indian Street

THIS AREA WAS INTENTIONALLY LEFT BLANK

		Movement/ Approach	AM Peak Period								PM Peak Period							
			2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
			No-Build		No-Build TSM&O		No-Build		No-Build TSM&O		No-Build		No-Build TSM&O		No-Build		No-Build TSM&O	
			Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 100 SR 714/Monterey Road at SR 76/Kanner Highway (Signalized)	EBL	125	F	58.3	E	287.4	F	37.7	D	204.8	F	42.2	D	340.2	F	43.3	D	
	EBT	50.5	D	49.2	D	104.3	F	67.9	E	44.1	D	52.1	D	61.1	E	50.8	D	
	EBR	33.8	C	24.6	C	42.2	D	25.2	C	37.7	D	32.2	C	27.7	C	30.9	C	
	EB Approach	77.3	E	50.4	D	165.8	F	52	D	104.2	F	46.5	D	158.5	F	45.9	D	
	WBL	102.2	F	66.1	E	229.5	F	48.7	D	68.3	E	31.7	C	71.2	E	34.9	C	
	WBT	75	E	62.3	E	95.6	F	61.5	E	75.8	E	61.8	E	198.5	F	102.5	F	
	WBR	76.1	E	39.1	D	96.9	F	38.8	D	76.6	E	23.2	C	205.6	F	24.8	C	
	WB Approach	81.6	F	59.1	E	133.5	F	53.7	D	74.9	E	54.1	D	181	F	82.5	F	
	NBL	98.1	F	85.3	F	178.7	F	121.4	F	179.9	F	123.8	F	323.2	F	204.6	F	
	NBT	132.2	F	63.5	E	176.4	F	78	E	60.5	E	51.6	D	90.9	F	52.8	D	
	NBR	147	F	52.1	D	186.8	F	36.1	D	66.9	E	14.7	B	105.4	F	17.6	B	
	NB Approach	130.8	F	64.4	E	179.6	F	75.1	E	88.5	F	61.9	E	150.5	F	83.4	F	
	SBL	186.8	F	93.2	F	297	F	158.8	F	68.1	E	62.9	E	120.3	F	79.8	E	
	SBT	76.9	E	53.6	D	92.9	F	58.2	E	80.3	F	48.9	D	82.8	F	49.8	D	
	SBR	22.9	C	19.5	B	28.4	C	11.6	B	297.6	F	35.7	D	417.3	F	54.5	D	
SB Approach	94.8	F	57.5	E	134.7	F	76.2	E	156.4	F	46.1	D	213.5	F	56.4	E		
Overall Intersection	94.7	F	56.7	E	156.3	F	63.6	E	110.6	F	51.7	D	179.6	F	66.6	E		
Intersection 200 SR 714/Monterey Road at Monterey Road Extension (Signalized)	EBL	31.9	C	29.7	C	28.3	C	22.1	C	28.9	C	30.3	C	34.5	C	34.5	C	
	EBT	41.9	D	38.7	D	35.7	D	32.2	C	24.3	C	25.7	C	25.3	C	25.3	C	
	EB Approach	41.9	D	38.6	D	35.7	D	32.2	C	24.4	C	25.7	C	25.4	C	25.4	C	
	WBT	24.2	C	21.8	C	40.3	D	9.9	A	41.7	D	42.9	D	62.5	E	62.5	E	
	WBR	24.1	C	21.7	C	40.2	D	9.8	A	41.5	D	42.8	D	62.5	E	62.5	E	
	WB Approach	24.2	C	21.8	C	40.3	D	9.9	A	41.6	D	42.9	D	62.5	E	62.5	E	
	NBL	78.2	E	78.1	E	75.7	E	75.9	E	70.1	E	70.9	E	71.1	E	71.1	E	
	NBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	
	NBR	61.8	E	60.2	E	59.1	E	58.1	E	44.9	D	45.4	D	44.1	D	44.1	D	
	NB Approach	77.2	E	76.8	E	74.3	E	73.9	E	68	E	68.6	E	68	E	68	E	
Overall Intersection	37.3	D	34.6	C	40.3	D	25.9	C	39.8	D	41	D	50.8	D	50.8	D		
Intersection 300 SR 714/Monterey Road at SR 5/US 1 (Signalized)	EBL	42.8	D	50.1	D	50.2	D	50.3	D	115.6	F	70.5	E	182.6	F	76	E	
	EBT	61	E	78.7	E	115.4	F	129.3	F	66.5	E	72.2	E					



Table 16 – No Build TSM&O 2030 and 2050 Peak Hour Delays and LOS, Cont’d

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		No-Build		No-Build TSM&O		No-Build		No-Build TSM&O		No-Build		No-Build TSM&O		No-Build		No-Build TSM&O	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 800 SRA1A at SE Airport Road (Signalized)	EBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EB Approach	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	WBL	75.3	E	55.6	E	75.8	E	52.1	D	75.9	E	49.9	D	74	E	48.4	D
	WBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	WBR	82.4	F	57.3	E	83.6	F	56.2	E	89.1	F	59.9	E	87.4	F	57.8	E
	WB Approach	79.8	E	55.6	E	80.5	F	54.6	D	84.9	F	56.7	E	83.2	F	54.9	D
	NBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NBT	21.3	C	16.8	B	35.7	D	14.9	B	27.1	C	19.4	B	17.2	B	16.7	B
	NBR	12.1	B	8.6	A	22	C	6.4	A	16	B	10.3	B	7.7	A	6	A
	NB Approach	21.1	C	16.6	B	35.4	D	14.7	B	27.1	C	19.3	B	17.1	B	16.6	B
	SBL	11.3	B	11	B	17.5	B	12.8	B	12.5	B	11.5	B	14.3	B	15	B
	SBT	1.3	A	1.7	A	1.5	A	2	A	2.2	A	2.8	A	3	A	3.5	A
	SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB Approach	1.7	A	2.1	A	2.2	A	2.5	A	2.3	A	2.9	A	3.1	A	3.6	A
	Overall Intersection	14.8	B	11.8	B	24.2	C	11	B	16.2	B	12.1	B	12.1	B	11.2	B
Intersection 900 SRA1A between US 1 and A1A (Unsignalized)	EBL	18.9	C	18.9	C	33.6	D	33.6	D	20.3	C	20.3	C	28.1	D	28.1	D
	EB Approach	18.9	C	18.9	C	33.6	D	33.6	D	20.3	C	20.3	C	28.1	D	28.1	D
	NBL	1	A	1	A	8.4	A	8.4	A	8.3	A	8.3	A	8.5	A	8.5	A
	NBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NB Approach	8.1	A	8.1	A	8.4	A	8.4	A	1.2	A	1.2	A	1.2	A	1.2	A
	Overall Intersection	18.9	C	18.9	C	33.6	D	33.6	D	20.3	C	20.3	C	28.1	D	28.1	D
Intersection 1000 SRA1A at SE Indian Street (Signalized)	EBL	46.8	D	56.2	E	57.6	E	65.5	E	92.2	F	61	E	179.5	F	112.2	F
	EBT	33	C	41.4	D	36.2	D	40.5	D	52.5	D	49.6	D	54	D	52.9	D
	EBR	29.8	C	36.7	D	32.8	C	35.8	D	45.7	D	24.2	C	64.7	E	29.2	C
	EB Approach	37.7	D	46.1	D	44.2	D	49.6	D	62.1	E	42.5	D	100.6	F	62.7	E
	WBL	44.4	D	45.7	D	44.1	D	45.6	D	47.4	D	45.9	D	52.7	D	49	D
	WBT	52.9	D	64.6	E	72.9	E	66.2	E	70.9	E	66.4	E	84.9	F	70	E
	WBR	-	-	51.1	D	-	-	49.9	D	-	-	44.7	D	-	-	43.7	D
	WB Approach	51.7	D	60.3	E	69.5	E	61.1	E	67.1	E	60.8	E	79.6	E	63.5	E
	NBL	90.4	F	46	D	168.3	F	115.9	F	63.4	E	72.6	E	221.6	F	172.8	F
	NBT	36	D	32.5	C	38.9	D	35.3	D	22.1	C	26.4	C	24.7	C	26.9	C
	NB Approach	59.7	E	38.4	D	96.8	F	71.4	E	43.9	D	50.7	D	123.8	F	100.3	F
	SBL	41.7	D	42.9	D	49.4	D	48.2	D	35.4	D	40.8	D	32.4	C	40.9	D
	SBT	55.3	E	53.2	D	63.7	E	62.1	E	46.3	D	58.6	E	44.5	D	67.4	E
	SBR	48.2	D	51.3	D	66.7	E	71.6	E	98.4	F	61.8	E	168.5	F	144.4	F
	SB Approach	51.3	D	51.8	D	64.3	E	65.8	E	72	E	59.4	E	105.7	F	104.5	F
	Overall Intersection	49	D	47.2	D	67.4	E	60.9	E	61.6	E	52.5	D	104.6	F	84.6	F
Intersection 1100 US 1 at SR5A (NB-Unsignalized, TSM&O-Signalized)	EBR	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	EB Approach	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBL	392.3	F	0	A	1458.7	F	0	A	4279.3	F	0	A	*	F	0	A
	WBR	17.9	C	0	A	22.7	C	0	A	75.6	F	0	A	244.1	F	0	A
	WB Approach	132	F	0	A	441.5	F	0	A	1442.4	F	0	A	*	F	0	A
	NBL	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NBTR	-	-	0.2	A	-	-	0.2	A	-	-	0.6	A	0	A	0.9	A
	NB Approach	0	A	0.2	A	0	A	0.2	A	0	A	0.6	A	0	A	0.9	A
	SBL	22.2	C	3.5	A	35.5	E	3.8	A	91.2	F	4.3	A	391.4	F	5.5	A
	SBTR	-	-	4.4	A	-	-	5.1	A	-	-	4.6	A	0	A	5	A
	SB Approach	22.2	C	4.3	A	35.5	E	5	A	91.2	F	4.6	A	391.4	F	5	A
Overall Intersection	132	F	2.9	A	441.5	F	3.4	A	1442.4	F	2.3	A	*	F	2.6	A	
Intersection 1200 US 1 at Decker Avenue (NB-Unsignalized, TSM&O-Signalized)	WBL	64.9	F	38.2	D	154.7	F	38.2	D	290.7	F	38.1	D	1182.9	F	38.1	D
	WBR	16.5	C	44.2	D	20.2	C	44.9	D	34.4	D	44.5	D	56.2	F	45	D
	WB Approach	31.4	D	41.4	D	62.9	F	42.7	D	108.3	F	42.8	D	394.2	F	42.9	D
	NB	0	F	1.6	A	0	F	2.1	A	0.0	F	0.5	A	0.0	F	1.3	A
	NB Approach	0	F	1.6	A	0	F	1.9	A	0	A	0.7	A	0	A	0.9	A
	SBL	18.5	C	1.8	A	24.5	C	2.4	A	51.5	F	1.3	A	98.3	F	1.8	A
	SBT	0	A	2	A	0	A	2.4	A	0	A	1.7	A	0	A	1.9	A
	SB Approach	18.5	C	2	A	24.5	C	2.4	A	0.3	A	1.7	A	22.2	C	1.9	A
Overall Intersection	31.4	D	2.5	A	62.9	F	2.9	A	108.3	F	1.7	A	394.2	F	1.9	A	
Intersection 1300 US 1 at Central Parkway (Signalized)	EBL	391.7	F	47.6	D	503.9	F	46.9	D	1066.4	F	73.7	E	1249.8	F	72.8	E
	EBT	0	A	43.6	D	0	A	42.6	D	0	A	60	E	0	A	58	E
	EBR	46.5	D	53.3	D	52.6	D	53.4	D	53.4	D	71.2	E	54.9	D	70.5	E
	EB Approach	193.6	F	50.3	D	238.5	F	50.1	D	538.7	F	72.3	E	614.2	F	71.4	E
	WBL	71.8	E	73.8	E	91.9	F	42.9	D	100.4	F	61.5	E	128.7	F	59.6	E
	WBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	42.9	D	42.7	D	48	D	41.9	D	48.2	D	60.9	E	48.5	D	58.9	E
	WB Approach	66.2	E	43.6	D	81.8	F	42.7	D	80	E	61.2	E	97.1	F	59.3	E
	NBL	48.5	D	10.8	B	57	E	19.7	B	32.6	C	6.6	A	40.2	D	7.8	A
	NBT	0.4	A	8.4	A	0.2	A	10	A	2.4	A	11.8	B	0.4	A	15.7	B
	NBR	0.8	A	8.6	A	0.4	A	10.2	B	2.9	A	11.9	B	0.7	A	15.8	B
	NB Approach	3.7	A	8.6	A	3.8	A	10.6	B	4.7	A	11.5	B	3.4	A	15.1	B
	SBL	21.5	C	6.3	A	20	B	7.4	A	23.2	C	10.1	B	27.8	C	15.7	B
	SBT	32.4	C	12.4	B	34.7	C	15.3	B	39.6	D	0.4	A	40	D	0.6	A
	SBR	19.7	B	7.7	A	18.3	B	8.2	A	28.5	C	0.1	A	26.4	C	0.2	A
	SB Approach	31.8	C	12.2	B	33.9	C	14.9	B	38.8	D	0.4	A	39.2	D	0.7	A
Overall Intersection	30.1	C	13.1	B	32.6	C	15.2	B	53.6	D	12	B	56.9	E	13.9	B	
Intersection 1400 US 1 at Monterey Road Extension/Grumman Blvd (Signalized)	EBL	48.9	D	48.1	D	48.2	D	47.1	D	51.8	D	48.6	D	59.6	E	55.7	E
	EBT	47.9	D	49	D	46.6	D	47.8	D	51.1	D	47.8	D	51	D	48.2	D
	EBR	78.4	E	55.3	E	79.6	E	55.4									



Table 16 – No Build TSM&O 2030 and 2050 Peak Hour Delays and LOS, Cont’d

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		No-Build		No-Build TSM&O		No-Build		No-Build TSM&O		No-Build		No-Build TSM&O		No-Build		No-Build TSM&O	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 1500 US 1 at Luckhardt Street (Signalized)	EBL	69.4	E	62.1	E	61.7	E	61.7	E	72.1	E	59.2	E	72.4	E	58.9	E
	EBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	EBR	63	E	56.5	E	56.7	E	56.7	E	60	E	50.3	D	60.2	E	50.4	D
	EB Approach	67.2	E	60.2	E	59.7	E	59.7	E	68.2	E	56.4	E	67.7	E	55.7	E
	WBL	65.4	E	58.6	E	59.4	E	59.4	E	65.5	E	54.8	D	67.4	E	56.4	E
	WBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	59.8	E	53.6	D	53	D	53	D	57	E	47.7	D	56.2	E	47	D
	WB Approach	63.3	E	56.7	E	59.6	E	56.4	E	62.7	E	52.5	D	63.2	E	52.8	D
	NBL	45.4	D	40.2	D	42	D	42	D	47.6	D	41.1	D	54.8	D	44.8	D
	NBT	36.2	D	33.8	C	30.3	C	30.4	C	19.3	B	19.7	B	25.9	C	28.4	C
	NBR	25.9	C	24	C	17.9	B	17.9	B	9.6	A	9.8	A	10.2	B	10.4	B
	NB Approach	36.4	D	33.8	C	30.5	C	31	C	20.6	C	20.7	C	27.2	C	29.1	C
	SBL	20.3	C	20	B	32.7	C	32.7	C	38.4	D	33.6	C	38.5	D	33.1	C
	SBT	31.2	C	32.5	C	44.8	D	44.1	D	35	C	35	C	33.7	C	37.9	D
	SBR	17.8	B	18.1	B	17.6	B	17.6	B	21.1	C	20.5	C	18.9	B	19.9	B
SB Approach	30.6	C	31.9	C	43.8	D	43.2	D	34.8	C	34.6	C	33.5	C	37.4	D	
Overall Intersection	34.7	C	34.1	C	38.8	D	38.6	D	29.4	C	28.6	C	32.2	C	34	C	
Intersection 1600 US 1 at SE Indian Street (Signalized)	EBL	83	F	90.9	F	139.5	F	139.5	F	132.2	F	101	F	165.9	F	165.9	F
	EBT	54.3	D	66.5	E	68.2	E	68.2	E	66.9	E	65.8	E	65.4	E	65.4	E
	EBR	50.8	D	21.4	C	148.6	F	23.7	C	66.1	E	16.8	B	67.9	E	16	B
	EB Approach	61	E	60.2	E	109.4	F	74.1	E	88.6	F	66.3	E	99	F	87	F
	WBL	78.1	E	71	E	89	F	89	F	64.3	E	61.1	E	74.4	E	74.4	E
	WBT	62.4	E	68.3	E	70.1	E	70.1	E	71.9	E	70.1	E	90.9	F	90.9	F
	WBR	60.6	E	31.7	C	73.2	E	37.7	D	68.6	E	49.5	D	143.3	F	65	E
	WB Approach	65.6	E	60.9	E	75.3	E	67.2	E	69.2	E	62.9	E	100	F	80.3	F
	NBL	61.5	E	111.1	F	173.4	F	173.4	F	177.3	F	177.3	F	281.3	F	281.3	F
	NBT	41.9	D	57.5	E	72.1	E	72.1	E	116.5	F	134.9	F	214.5	F	214.5	F
	NBR	41.8	D	38.1	D	59.1	E	38.4	D	41.8	D	22	C	47.3	D	26	C
	NB Approach	47	D	68.6	E	94	F	91	F	123.6	F	134.9	F	214.4	F	212.5	F
	SBL	95.7	F	56.4	E	77.7	E	77.7	E	144.7	F	155.3	F	387.1	F	388	F
	SBT	122.2	F	51.9	D	98.2	F	98.2	F	59.8	E	65.7	E	124.2	F	130.3	F
	SBR	36.9	D	11.1	B	27.7	C	13.4	B	55.5	E	14.6	B	54	D	17.7	B
SB Approach	106.4	F	47.5	D	84.7	F	82.8	F	74.1	E	73.3	E	160.2	F	158.3	F	
Overall Intersection	73.4	E	58.3	E	90.8	F	80.8	F	94	F	93.1	F	157.6	F	150.4	F	
Intersection 1700 SR 5A between US 1 and A1A (Unsignalized)	EB	10.9	B	10.9	B	11.3	B	11.3	B	10.4	B	10.4	B	10.7	F	10.7	F
	EB Approach	10.9	B	10.9	B	11.3	B	11.3	B	10.4	B	10.4	B	10.7	B	10.7	B
	WB	10.1	B	10.1	B	10.9	B	10.9	B	10.2	B	10.2	B	11	B	11	B
	WB Approach	10.1	B	10.1	B	10.9	B	10.9	B	10.2	B	10.2	B	11	B	11	B
	NB	7.4	A	7.4	A	7.4	A	7.4	A	0.3	A	0.3	A	0.4	A	0.4	A
	NB Approach	7.4	A	7.4	A	7.4	A	7.4	A	0.3	A	0.3	A	0.4	A	0.4	A
	SB	7.6	A	7.6	A	7.7	A	7.7	A	0.1	A	0.1	A	0.4	F	0.4	F
	SB Approach	7.6	A	7.6	A	7.7	A	7.7	A	0.1	A	0.1	A	0.4	A	0.4	A
Overall Intersection	10.9	B	10.9	B	11.3	B	11.3	B	10.4	B	10.4	B	10.7	B	10.7	B	
Intersection 2200 SR 714/Monterey Rd at Willoughby Blvd (Signalized)	EBL	31.9	C	31.8	C	22.5	C	32.4	C	16.6	B	54.7	D	48	D	67.2	E
	EBTR	164.9	F	69.4	E	131.8	F	114.6	F	107.5	F	36.1	D	167.4	F	42.3	D
	EB Approach	163.9	F	59.2	E	130.2	F	94.7	F	105.4	F	32.9	C	164	F	17.1	B
	WBL	90.5	F	76.8	E	47.6	D	180.3	F	43.8	D	47.2	D	72.2	E	185.2	F
	WBTR	34.9	C	33.6	C	17.1	B	36.8	D	73.1	E	28.1	C	40.8	D	45.4	D
	WB Approach	45.8	D	42.1	D	24.2	C	70	E	67.2	E	32	C	47.8	D	76.8	E
	NBL	75.9	E	58	E	72.4	E	59	E	80.2	F	68.6	E	78.8	E	67	E
	NBT	75.5	E	57.8	E	72.4	E	59	E	79.9	E	68.3	E	79.3	E	67	E
	NBR	67	E	55.8	E	66.5	E	59	E	32.5	C	39.2	D	21.3	C	39.5	D
	NB Approach	70.3	E	56.6	E	68.6	E	59	E	56	E	53.7	D	50.5	D	53.4	D
	SBLTR	42	D	56	E	78	E	57.1	E	79.7	E	70.9	E	79.9	E	70.9	E
	SB Approach	42	D	56	E	78	E	57.1	E	79.7	E	70.9	E	79.9	E	70.9	E
Overall Intersection	109.1	F	53.6	D	84.9	F	79.6	E	77.9	E	37.6	D	85.1	F	60.9	E	
Intersection 2300 SR 714/Monterey Rd at SE Ray's Way (NB-Unsignalized, TSM&O-Signalized)	EBL	10.4	B	16.4	B	11.3	B	17.5	B	16.1	C	29.2	C	19.7	C	30.5	C
	EBTR	0	A	16.5	B	0	A	21.7	C	3.4	A	9.9	A	7.5	A	7.7	A
	EBR	-	-	-	-	-	-	-	-	-	-	-	-	A	-	A	
	EB Approach	0.7	A	16.5	B	0.7	A	21.4	C	4.1	A	11	B	8.2	A	8.9	A
	WBL	-	-	-	-	-	-	-	-	-	-	-	-	A	-	A	
	WBTR	0	A	10.6	B	0	A	10.5	B	0	A	13.9	B	0	A	12.4	B
	WB Approach	0	A	10.6	B	0	A	10.5	B	0	A	13.9	B	0	A	12.4	B
	NBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	NBTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	NB Approach	-	A	-	A	-	A	-	A	-	A	-	A	-	A	-	A
	SBL	17.2	C	12.4	B	13.8	B	13.6	B	53.5	F	29.8	C	682.5	F	40.5	D
	SBTR (SBT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SBR	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	SB Approach	17.2	C	12.4	B	13.8	B	13.6	B	53.5	F	29.8	C	682.5	F	40.5	D
Overall Intersection	17.2	C	14.2	B	13.8	B	17.3	B	53.5	F	13.8	B	682.5	F	12.9	B	

7.4.2 Alternative 1 TSM&O Alternative Analysis

The Alternative 1 TSM&O analysis was performed by improving the previous Alternative 1 Synchro models with TSM&O intersection improvements and signal optimization as well.

As shown in **Table 17** the study intersections demonstrated improvements when the TSM&O improvements were applied. Similar to the No Build TSM&O scenario, several intersections are still projected to reach LOS F conditions by 2050 under the TSM&O scenario, they are generally greatly improved as compared to the initial Alternative 1 scenario. The following intersections will require extensive right-of-way acquisitions to increase the intersection's capacity to allow for levels of service better than LOS F:

- Intersection 3 (300) – SR 714/Monterey Road at SR 5/US 1
- Intersection 10 (1000) – CR A1A at Indian Street
- Intersection 16 (1600) – SR 5/US 1 at Indian Street

THIS AREA WAS INTENTIONALLY LEFT BLANK



Table 17 – Alternative 1 TSM&O 2030 and 2050 Peak Hour Delays and LOS

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 100 SR 714/Monterey Road at SR 76/Kanner Highway (Signalized)	EBL	125	F	57.7	E	287.4	F	37.7	D	204.8	F	42.2	D	340.2	F	43.3	D
	EBT	50.5	D	49.5	D	104.3	F	67.9	E	44.1	D	52.6	D	61.1	E	50.8	D
	EBR	33.8	C	24.7	C	42.2	D	25.2	C	37.7	D	32.4	C	27.7	C	30.9	C
	EB Approach	77.3	E	50.3	D	165.8	F	52	D	104.2	F	46.8	D	158.5	F	45.9	D
	WBL	104	F	66.2	E	228.1	F	48.7	D	74.2	E	31.5	C	71.1	E	34.9	C
	WBT	76.2	E	63.6	E	94.2	F	61.5	E	87.4	F	61.2	E	197.9	F	101.9	F
	WBR	77.4	E	39.4	D	95.5	F	29	C	88	F	23.2	C	205.1	F	24.7	C
	WB Approach	83	F	60	E	132.1	F	54.1	D	85.6	F	53.5	D	180.5	F	82	F
	NBL	98.1	F	85.3	F	178.7	F	121.4	F	179.9	F	123.8	F	323.2	F	204.6	F
	NBT	132.2	F	63.5	E	176.4	F	78	E	60.5	E	51.6	D	90.9	F	52.8	D
	NBR	147	F	51.9	D	186.8	F	36.1	D	66.9	E	14.6	B	105.4	F	17.6	B
	NB Approach	130.8	F	64.3	E	179.6	F	75.1	E	88.5	F	61.9	E	150.5	F	83.4	F
	SBL	186.8	F	93.2	F	297	F	158.8	F	68.1	E	62.9	E	120.3	F	79.8	E
	SBT	76.9	E	53.6	D	92.9	F	58.2	E	80.3	F	48.9	D	82.8	F	49.8	D
	SBR	22.9	C	19.4	B	28.4	C	11.3	B	297.6	F	35.7	D	417.3	F	54.5	D
	SB Approach	94.8	F	57.5	E	134.7	F	76.1	E	156.4	F	46.1	D	213.5	F	56.4	E
	Overall Intersection	94.9	F	56.8	E	156.1	F	63.6	E	113.1	F	51.6	D	179.6	F	66.5	E
Intersection 200 SR 714/Monterey Road at Monterey Road Extension (Signalized)	EBL	35.6	D	34.1	C	28.3	C	22.1	C	28.9	C	30.2	C	34.5	C	34.5	C
	EBT	23.8	C	22.1	C	35.7	D	32.2	C	24.3	C	26.3	C	25.3	C	25.3	C
	EB Approach	23.9	C	22.1	C	35.7	D	32.2	C	24.4	C	26.4	C	25.4	C	25.4	C
	WBT	34.1	C	32.9	C	40.3	D	9.9	A	41.7	D	34.8	C	62.5	E	62.5	E
	WBR	33.9	C	32.7	C	40.2	D	9.8	A	41.5	D	34.7	C	62.5	E	62.5	E
	WB Approach	34	C	32.8	C	40.3	D	9.9	A	41.6	D	34.8	C	62.5	E	62.5	E
	NBL	78.2	E	78.1	E	75.7	E	75.9	E	70.1	E	70.9	E	71.1	E	71.1	E
	NBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NBR	61.8	E	60.2	E	59.1	E	58.1	E	44.9	D	45.4	D	44.1	D	44.1	D
	NB Approach	77.2	E	76.8	E	74.3	E	73.9	E	68	E	68.6	E	68	E	68	E
	Overall Intersection	31.7	C	30.3	C	40.3	D	25.9	C	39.8	D	37.1	D	50.8	D	50.8	D
Intersection 300 SR 714/Monterey Road at SR 5/US 1 (Signalized)	EBL	42.8	D	49.9	D	50.2	D	50	D	115.6	F	70.5	E	182.6	F	76	E
	EBT	61	E	79	E	115.4	F	129.3	F	66.5	E	72.7	E	65.3	E	74.4	E
	EBR	22.6	C	78.4	E	46.8	D	129.7	F	55.8	E	73.1	E	53.7	D	74.7	E
	EB Approach	56.8	E	74.2	E	98.7	F	116.6	F	78.3	E	72.3	E	98	F	75	E
	WBL	124.1	F	65.5	E	266	F	146.2	F	224.1	F	92.7	F	215.1	F	102.1	F
	WBT-R	61.4	E	59.2	E	62	E	57.6	E	62.4	E	60.4	E	71.1	E	76.3	E
	WB Approach	85.5	F	61.6	E	156.8	F	98.8	F	126.2	F	73.2	E	123.1	F	85.6	F
	NBL	71.9	E	63.8	E	166.4	F	121.3	F	47.2	D	51.8	D	192.2	F	63.4	E
	NBT	48.1	D	27.5	C	70.7	E	45.1	D	106.5	F	140.3	F	185.3	F	220	F
	NBR	56.9	E	0	A	287.9	F	0	A	23.4	C	0	A	47.8	D	0	A
	NB Approach	51.7	D	30.4	C	143.6	F	54.5	D	90.3	F	128.9	F	166	F	195.1	F
	SBL	84.6	F	75.4	E	170	F	100.9	F	65.2	E	68.2	E	266.2	F	68.6	E
	SBT	80.1	F	83	F	131.6	F	129.8	F	43.3	D	53.9	D	35.8	D	56.3	E
	SBR	46.9	D	40.3	D	27.5	C	42.4	D	33.5	C	30	C	27.1	C	29.3	C
	SB Approach	77.5	E	78.4	E	126.4	F	117	F	45.5	D	53.4	D	74.4	E	55.2	E
	Overall Intersection	67.4	E	63.9	E	131.3	F	99.3	F	84.9	F	88.3	F	124.3	F	115.5	F
Intersection 500 SR A1A at Decker Avenue/SE Railroad Avenue (Unsignalized)	EB	15.1	C	15.1	C	19.5	C	19.5	C	16.3	C	16.3	C	22.4	C	22.4	C
	EB Approach	15.1	C	15.1	C	19.5	C	19.5	C	16.3	C	16.3	C	22.4	C	22.4	C
	WB	17.6	C	17.6	C	21.7	C	21.7	C	17.9	C	17.9	C	26.2	D	26.2	D
	WB Approach	17.6	C	17.6	C	21.7	C	21.7	C	17.9	C	17.9	C	26.2	D	26.2	D
	NB	0.4	A	0.4	A	8.5	A	8.5	A	0.3	A	0.3	A	0.3	A	0.3	A
	NB Approach	0.4	A	0.4	A	8.5	A	8.5	A	0.3	A	0.3	A	0.3	A	0.3	A
	SB	0.2	A	0.2	A	8.3	A	8.3	A	0.2	A	0.2	A	0.3	A	0.3	A
	SB Approach	0.2	A	0.2	A	8.3	A	8.3	A	0.2	A	0.2	A	0.3	A	0.3	A
Intersection 600 SRA1A at Christie Way (Signalized)	WBL	32.4	C	32.4	C	32.3	C	32.3	C	26.8	C	27.5	C	26.7	C	26.7	C
	WBR	27.1	C	27.1	C	26.8	C	26.8	C	18.4	B	18.5	B	14.4	B	14.4	B
	WB Approach	32.4	C	32.4	C	32.1	C	32.1	C	26.6	C	27.3	C	26.3	C	26.3	C
	NBT	4.7	A	4.7	A	5	A	5	A	11.4	B	11.3	B	17.5	B	17.5	B
	NBR	6.2	A	6.2	A	7	A	7	A	13.8	B	13.7	B	32.1	C	32.1	C
	NB Approach	5.6	A	5.6	A	6.9	A	6.9	A	12.7	B	12.6	B	26	C	26	C
	SBT	4.7	A	4.7	A	5.2	A	5.2	A	10.2	B	10.1	B	14.6	B	14.6	B
	SB Approach	4.7	A	4.7	A	5.2	A	5.2	A	10.2	B	10.1	B	14.6	B	14.6	B
Intersection 700 SRA1A at SE Aviation Way (Signalized)	WBL	81.2	F	56.3	E	90.5	F	64.4	E	76.7	E	48.4	D	81.9	F	57.6	E
	WBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	68.9	E	46.8	D	73	E	47.3	D	89.9	F	57.2	E	91.1	F	65.5	E
	WB Approach	78.3	E	54.1	D	85.9	F	59.9	E	84.3	F	53.5	D	86.4	F	61.5	E
	NBL	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NBT	6.4	A	7.5	A	7.3	A	8.3	A	4.7	A	6	A	5.9	A	7	A
	NBR	6.4	A	5.2	A	7.3	A	5.4	A	4.7	A	4.1	A	5.9	A	4.4	A
	NB Approach	6.4	A	7.3	A	7.3	A	8	A	4.7	A	6	A	5.9	A	7	A
	SBL	0.2	A	4.7	A	5.2	A	5.6	A	2.9	A	4	A	3.9	A	4.8	A
	SBT	0.1	A	0.2	A	2.4	A	0.2	A	0.3	A	0.4	A	0.5	A	0.6	A
	SBR	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	SB Approach	0.4	A	0.5	A	2.6	A	0.6	A	0.4	A	0.4	A	0.5	A	0.6	A
	Overall Intersection	8.2	A	7.5	A	10.1	B	8.4	A	7	A	5.8	A	8	A	7	A
Intersection 800 SRA1A at SE Airport Road (Signalized)	WBL	75.3	E	75.3	E	75.8	E	54.6	D	75.9	E	49.9	D	74	E	48.4	D
	WBR	82.4	F	82.4	F	83.6	F	56.2	E	89.1	F	59.9	E	87.4	F	57.8	E
	WB Approach	79.8	E	79.8	E	80.5	F	54.6	D	84.9	F	56.7	E	83.2	F	54.9	D
	NBT	21.3	C	21.3	C	35.7	D	14.9	B	27.1	C	19.4	B	17.2	B	16.7	B
	NBR	12.1	B	12.1	B	22	C	6.4	A	16	B	10.3	B	7.7	A	6	A
	NB Approach	21.1	C	21.1	C	35.4	D	14.7	B	27.1	C	19.3	B	17.1	B	16.6	B
	SBL	11.3	B	11.3	B	17.5	B	12.9	B	12.5	B	11.5	B	14.3	B	15	B
	SBT	1.3	A	1.3	A	1.5	A	2	A	2.5	A	3	A	3.5	A	4.2	A
	SB Approach	1.7	A	1.7	A	2.2	A	2.5	A	2.6	A	3.1	A	3.6	A	4.3	A
	Overall Intersection	14.8	B	14.8	B	24.2	C	11.1	B	16.4	B	12.2	B	12.4	B	11.5	B



Table 17 – Alternative 1 TSM&O 2030 and 2050 Peak Hour Delays and LOS, Cont’d

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 900 SRA1A between US 1 and A1A (Unsignalized)	EBL	18.9	C	18.9	C	33.6	D	33.6	D	20.3	C	20.3	C	28.1	D	28.1	D
	EB Approach	18.9	C	18.9	C	33.6	D	33.6	D	20.3	C	20.3	C	28.1	D	28.1	D
	NBL	1	A	1	A	8.4	A	8.4	A	8.3	A	8.3	A	8.5	A	8.5	A
	NBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NB Approach	8.1	A	8.1	A	8.4	A	8.4	A	1.2	A	1.2	A	1.2	A	1.2	A
	Overall Intersection	18.9	C	18.9	C	33.6	D	33.6	D	20.3	C	20.3	C	28.1	D	28.1	D
Intersection 1000 SRA1A at SE Indian Street (Signalized)	EBL	46.8	D	56.2	E	57.6	E	65.5	E	92.2	F	61	E	179.5	F	112.2	F
	EBT	33	C	41.4	D	36.2	D	40.5	D	52.5	D	49.6	D	54	D	52.9	D
	EBR	29.8	C	36.7	D	32.8	C	35.8	D	45.7	D	24.2	C	64.7	E	29.2	C
	EB Approach	37.7	D	46.1	D	44.2	D	49.6	D	62.1	E	42.5	D	100.6	F	62.7	E
	WBL	44.4	D	45.7	D	44.1	D	45.6	D	47.4	D	45.9	D	52.7	D	49	D
	WBT	52.9	D	64.6	E	72.9	E	66.2	E	70.9	E	66.4	E	84.9	F	70	E
	WBR	-	-	51.1	D	-	-	49.9	D	-	-	44.7	D	-	-	43.7	D
	WB Approach	51.7	D	60.3	E	69.5	E	61.1	E	67.1	E	60.8	E	79.6	E	63.5	E
	NBL	90.4	F	46	D	168.3	F	115.9	F	63.4	E	72.6	E	221.6	F	172.8	F
	NBT	36	D	32.5	C	38.9	D	35.3	D	22.1	C	26.4	C	24.7	C	26.9	C
	NB Approach	59.7	E	38.4	D	96.8	F	71.4	E	43.9	D	50.7	D	123.8	F	100.3	F
	SBL	41.7	D	42.9	D	49.4	D	48.2	D	35.4	D	40.8	D	32.4	C	40.9	D
	SBT	55.3	E	53.2	D	63.7	E	62.1	E	46.3	D	58.6	E	44.5	D	67.4	E
	SBR	48.2	D	51.3	D	66.7	E	71.6	E	98.4	F	61.8	E	168.5	F	144.4	F
	SB Approach	51.3	D	51.8	D	64.3	E	65.8	E	72	E	59.4	E	105.7	F	104.5	F
	Overall Intersection	49	D	47.2	D	67.4	E	60.9	E	61.6	E	52.5	D	104.6	F	84.6	F
Intersection 1100 US 1 at SR 5A (NB-Unsignalized, TSM&O-Signalized)	EBR	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	EB Approach	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBL	392.3	F	0	A	1458.7	F	0	A	4279.3	F	0	A	*	F	0	A
	WBR	17.9	C	0	A	22.7	C	0	A	75.6	F	0	A	244.1	F	0	A
	WB Approach	132	F	0	A	441.5	F	0	A	1442.4	F	0	A	*	F	0	A
	NBL	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NBTR	-	-	0.2	A	-	-	0.2	A	-	-	0.8	A	0	A	1.3	A
	NB Approach	0	A	0.2	A	0	A	0.2	A	0	A	0.8	A	0	A	1.3	A
	SBL	22.2	C	3.5	A	35.5	E	3.8	A	91.2	F	3.8	A	391.4	F	4.8	A
	SBTR	-	-	4.4	A	-	-	5.1	A	-	-	3.5	A	0	A	3.8	A
	SB Approach	22.2	C	4.3	A	35.5	E	5	A	91.2	F	3.5	A	391.4	F	3.8	A
Overall Intersection	132	F	2.9	A	441.5	F	3.4	A	1442.4	F	2	A	*	F	2.3	A	
Intersection 1200 US 1 at Decker Avenue (NB-Unsignalized, TSM&O-Signalized)	WBL	64.9	F	38.2	D	154.7	F	38.2	D	290.7	F	35.8	D	1182.9	F	38.1	D
	WBR	16.5	C	44.2	D	20.2	C	44.9	D	34.4	D	36.9	D	56.2	F	45	D
	WB Approach	31.4	D	41.4	D	62.9	F	42.7	D	108.3	F	36.6	D	394.2	F	42.9	D
	NB	0	F	1.6	A	0	F	2.1	A	0.0	F	3.1	A	0.0	F	1.3	A
	NB Approach	0	F	1.6	A	0	F	1.9	A	0	A	3.1	A	0	A	0.9	A
	SBL	18.5	C	1.8	A	24.5	C	2.4	A	51.5	F	2.6	A	98.3	F	1.8	A
	SBT	0	A	2	A	0	A	2.4	A	0	A	1.1	A	0	A	1.9	A
	SB Approach	18.5	C	2	A	24.5	C	2.4	A	0.3	A	1.1	A	22.2	C	1.9	A
Overall Intersection	31.4	D	2.5	A	62.9	F	2.9	A	108.3	F	2.7	A	394.2	F	1.9	A	
Intersection 1300 US 1 at Central Parkway (Signalized)	EBL	391.7	F	47.6	D	503.9	F	46.9	D	1066.4	F	73.7	E	1249.8	F	72.8	E
	EBT	0	A	43.6	D	0	A	42.6	D	0	A	60	E	0	A	58	E
	EBR	46.5	D	53.3	D	52.6	D	53.4	D	53.4	D	71.2	E	54.9	D	70.5	E
	EB Approach	193.6	F	50.3	D	238.5	F	50.1	D	538.7	F	72.3	E	614.2	F	71.4	E
	WBL	71.8	E	73.8	E	91.9	F	42.9	D	100.4	F	61.5	E	128.7	F	59.6	E
	WBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	42.9	D	42.7	D	48	D	41.9	D	48.2	D	60.9	E	48.5	D	58.9	E
	WB Approach	66.2	E	43.6	D	81.8	F	42.7	D	80	E	61.2	E	97.1	F	59.3	E
	NBL	48.5	D	10.8	B	57	E	19.7	B	32.6	C	6.6	A	40.2	D	7.8	A
	NBT	0.4	A	8.4	A	0.2	A	10	A	2.4	A	11.8	B	0.4	A	15.7	B
	NBR	0.8	A	8.6	A	0.4	A	10.2	B	2.9	A	11.9	B	0.7	A	15.8	B
	NB Approach	3.7	A	8.6	A	3.8	A	10.6	B	4.7	A	11.5	B	3.4	A	15.1	B
	SBL	21.5	C	6.3	A	20	B	7.4	A	23.2	C	10.1	B	27.8	C	15.7	B
	SBT	32.4	C	12.4	B	34.7	C	15.3	B	39.6	D	0.4	A	40	D	0.6	A
	SBR	19.7	B	7.7	A	18.3	B	8.2	A	28.5	C	0.1	A	26.4	C	0.2	A
	SB Approach	31.8	C	12.2	B	33.9	C	14.9	B	38.8	D	0.4	A	39.2	D	0.7	A
Overall Intersection	30.1	C	13.1	B	32.6	C	15.2	B	53.6	D	12	B	56.9	E	13.9	B	
Intersection 1400 US 1 at Monterey Road Extension/Grumman Blvd (Signalized)	EBL	48.9	D	50.1	D	48.2	D	47.1	D	51.8	D	48.6	D	59.6	E	55.7	E
	EBT	47.9	D	49	D	46.6	D	47.8	D	51.1	D	47.8	D	51	D	48.2	D
	EBR	78.4	E	55.3	E	79.6	E	55.4	E	91.6	F	50.1	D	91.8	F	47.2	D
	EB Approach	67	E	53.3	D	66.6	E	52	D	75.4	E	49.4	D	76.9	E	50.5	D
	WBL	48.2	D	49.4	D	45.8	D	52.4	D	51.9	D	47.7	D	51.9	D	48.5	D
	WBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	51	D	52.1	D	49.1	D	56	E	54.2	D	50	D	53.7	D	51.2	D
	WB Approach	49.8	D	51	D	47.7	D	54.6	D	52.6	D	48.5	D	52.7	D	49.6	D
	NBL	58.6	E	15.3	B	72.2	E	18.8	B	41.2	D	23.9	C	67.3	E	38.8	D
	NBT-R	43.7	D	22.6	C	51.7	D	30.8	C	83.6	F	46.1	D	149.6	F	116.6	F
	NB Approach	44.8	D	22.1	C	53	D	30	C	80	E	44.3	D	142.7	F	110.1	F
	SBL	37.6	D	15.6	B	54	D	23	C	63.2	E	32.5	C	63.5	E	32.3	C
	SBT-R	30.1	C	0.3	A	37.8	D	1.2	A	6.5	A	6.3	A	13.6	B	9.2	A
	SB Approach	30.2	C	0.6	A	38.1	D	1.6	A	8.3	A	7.1	A	15.2	B	9.9	A
	Overall Intersection	39.7	D	14.6	B	47.2	D	18.7	B	54.4	D	32.8	C	90	F	68.5	E
Intersection 1500 US 1 at Luckhardt Street (Signalized)	EBL	69.4	E	62.1	E	61.7	E	61.7	E	72.1	E	59.2	E	72.4	E	58.9	E
	EBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	EBR	63	E	56.5	E												



Table 17 – Alternative 1 TSM&O 2030 and 2050 Peak Hour Delays and LOS, Cont’d

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O		Alternative 1		Alternative 1 TSM&O	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 1600 US 1 at SE Indian Street (Signalized)	EBL	83	F	90.9	F	139.5	F	139.5	F	132.2	F	101	F	165.9	F	165.9	F
	EBT	54.3	D	66.5	E	68.2	E	68.2	E	66.9	E	65.8	E	65.4	E	65.4	E
	EBR	50.8	D	21.4	C	148.6	F	23.7	C	66.1	E	16.8	B	67.9	E	16	B
	EB Approach	61	E	60.2	E	109.4	F	74.1	E	88.6	F	66.3	E	99	F	87	F
	WBL	78.1	E	70.9	E	89	F	89	F	64.3	E	61.1	E	74.4	E	74.4	E
	WBT	62.4	E	68.3	E	70.1	E	70.1	E	71.9	E	70.1	E	90.9	F	90.9	F
	WBR	60.6	E	31.4	C	73.2	E	37.7	D	68.6	E	49.5	D	143.3	F	65	E
	WB Approach	65.6	E	60.8	E	75.3	E	67.2	E	69.2	E	62.9	E	100	F	80.3	F
	NBL	61.5	E	109.8	F	173.4	F	173.4	F	177.3	F	177.3	F	281.3	F	281.3	F
	NBT	41.9	D	58.2	E	72.1	E	72.1	E	116.5	F	134.9	F	214.5	F	214.5	F
	NBR	41.8	D	38.5	D	59.1	E	38.4	D	41.8	D	22	C	47.3	D	26	C
	NB Approach	47	D	68.7	E	94	F	91	F	123.6	F	134.9	F	214.4	F	212.5	F
	SBL	95.7	F	55.9	E	77.7	E	77.7	E	144.7	F	155.3	F	387.1	F	388	F
	SBT	122.2	F	52.1	D	98.2	F	98.2	F	59.8	E	65.7	E	124.2	F	130.3	F
	SBR	36.9	D	11.1	B	27.7	C	13.4	B	55.5	E	14.6	B	54	D	17.7	B
	SB Approach	106.4	F	47.5	D	84.7	F	82.8	F	74.1	E	73.3	E	160.2	F	158.3	F
	Overall Intersection	73.4	E	58.4	E	90.8	F	80.8	F	94	F	93.1	F	157.6	F	150.4	F
Intersection 1700 SR 5A between US 1 and A1A (Unsignalized)	EB	10.9	B	10.9	B	11.3	B	11.3	B	10.4	B	10.4	B	10.7	F	10.7	F
	EB Approach	10.9	B	10.9	B	11.3	B	11.3	B	10.4	B	10.4	B	10.7	B	10.7	B
	WB	10.1	B	10.1	B	10.9	B	10.9	B	10.2	B	10.2	B	11	B	11	B
	WB Approach	10.1	B	10.1	B	10.9	B	10.9	B	10.2	B	10.2	B	11	B	11	B
	NB	7.4	A	7.4	A	7.4	A	7.4	A	0.3	A	0.3	A	0.4	A	0.4	A
	NB Approach	7.4	A	7.4	A	7.4	A	7.4	A	0.3	A	0.3	A	0.4	A	0.4	A
	SB	7.6	A	7.6	A	7.7	A	7.7	A	0.1	A	0.1	A	0.4	F	0.4	F
	SB Approach	7.6	A	7.6	A	7.7	A	7.7	A	0.1	A	0.1	A	0.4	A	0.4	A
	Overall Intersection	10.9	B	10.9	B	11.3	B	11.3	B	10.4	B	10.4	B	10.7	B	10.7	B
Intersection 1800 Monterey Road & Christy Way Ext (Signalized)	EBL	68.7	E	68.7	E	68.6	E	68.6	E	69.4	E	69.4	E	71.7	E	71.7	E
	EBT	12.6	B	12.6	B	22.4	C	22.4	C	9.3	A	9.3	A	17.2	B	17.2	B
	EB Approach	28	C	28	C	34.7	C	34.7	C	30.5	C	30.5	C	39	D	39	D
	WBT	24.7	C	24.7	C	36.1	D	36.1	D	27.7	C	27.7	C	64.3	E	64.3	E
	WBR	8	A	8	A	10.6	B	10.6	B	9.2	A	9.2	A	15.3	B	15.3	B
	WB Approach	19.7	B	19.7	B	28.9	C	28.9	C	22	C	22	C	47.9	D	47.9	D
	SBL	50.8	D	50.8	D	45.7	D	45.7	D	52.5	D	52.5	D	41.2	D	41.2	D
	SBR	74.8	E	74.8	E	123.2	F	123.2	F	40.5	D	40.5	D	81.7	F	81.7	F
	SB Approach	72.2	E	72.2	E	114.5	F	114.5	F	41.8	D	41.8	D	77	E	77	E
	Overall Intersection	34.3	C	34.3	C	50.1	D	50.1	D	29.3	C	29.3	C	50.6	D	50.6	D
Intersection 2000 SR A1A & SE 16th Street (Signalized)	WBR	34.2	C	34.2	C	32.9	C	32.9	C	32.1	C	32.1	C	30.5	C	30.6	C
	WB Approach	34.2	C	34.2	C	32.9	C	32.9	C	32.1	C	32.1	C	30.5	C	30.6	C
	NBT	2.8	A	2.8	A	3.4	A	3.4	A	4	A	4	A	5.3	A	5.2	A
	NBR	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NB Approach	2.8	A	2.8	A	3.4	A	3.4	A	4	A	4	A	5.3	A	5.2	A
	SBL	1	A	1	A	1.1	A	1.1	A	1.1	A	1.1	A	1.2	A	1.2	A
	SBT	2.3	A	2.3	A	3.6	A	3.6	A	3.5	A	3.5	A	4.4	A	4.3	A
	SB Approach	2.3	A	2.3	A	2.7	A	2.7	A	2.6	A	2.6	A	3.1	A	3	A
	Overall Intersection	9	A	9	A	9.4	A	9.4	A	7.3	A		A	8.2	A	8.1	A
Intersection 2100 SE Palm Beach Rd & SE 16th Street/Christy Way Ext (Signalized)	EBL	29.9	C	29.9	C	29.6	C	29.6	C	28.2	C	28.2	C	29.5	C	29.5	C
	EBTR	37.2	D	37.2	D	38.8	D	38.8	D	40.4	D	40.4	D	54.9	D	54.9	D
	EB Approach	37.1	D	37.1	D	38.6	D	38.6	D	40	D	40	D	54	D	54	D
	WBL	69.5	E	69.5	E	75.8	E	75.8	E	73.6	E	73.6	E	77.9	E	77.9	E
	WBT	26.1	C	26.1	C	25.5	C	25.5	C	20.6	C	20.6	C	18.5	B	18.5	B
	WBR	22.2	C	22.2	C	19.5	B	19.5	B	17.7	B	17.7	B	14.7	B	14.7	B
	WB Approach	41.7	D	41.7	D	43.4	D	43.4	D	47.9	D	47.9	D	51.7	D	51.7	D
	NBL	0	A	0	A	0	A	0	A	19.9	B	19.9	B	27.8	C	27.8	C
	NBT	19.4	B	19.4	B	25.7	C	25.7	C	25.5	C	25.5	C	40.8	D	40.8	D
	NBR	16.6	B	16.6	B	25.4	C	25.4	C	14.8	B	14.8	B	19.4	B	19.4	B
	NB Approach	18.6	B	18.6	B	25.6	C	25.6	C	21	C	21	C	29.9	C	29.9	C
	SBL	84.3	F	84.3	F	92.3	F	92.3	F	77.5	E	77.5	E	89.5	F	89.5	F
	SBTR	7.6	A	7.6	A	9.6	A	9.6	A	15.4	B	15.4	B	24	C	24	C
	SB Approach	72.1	E	72.1	E	79.7	E	79.7	E	45.2	D	45.2	D	54.7	D	54.7	D
	Overall Intersection	43.5	D	43.5	D	48.1	D	48.1	D	41.2	D	41.2	D	48.3	D	48.3	D
Intersection 2200 SR 714/Monterey Rd at Willoughby Blvd (Signalized)	EBL	17.4	B	12.7	B	34.5	C	22.7	C	44.2	D	60.4	E	52.1	D	48.8	D
	EBTR	38.4	D	22	C	83.7	F	43.2	D	60.7	E	35.8	D	57.7	E	61.8	E
	EB Approach	38	D	18.8	B	81.2	F	36.3	D	60	E	33.6	C	57.3	E	54.2	D
	WBL	58.5	E	17.6	B	60.2	E	40.7	D	59.5	E	47.3	D	64.8	E	64.2	E
	WBTR	20.2	C	15.6	B	30.1	C	29.6	C	35.1	D	30.2	C	52.3	D	52.3	D
	WB Approach	27	C	15.9	B	35.1	D	31.4	C	39.7	D	32.7	C	54.5	D	54.4	D
	NBL	55.7	E	64.8	E	59	E	59.8	E	58.8	E	68.9	E	59.9	E	59.9	E
	NBT	55.6	E	64.7	E	58.8	E	59.6	E	58.5	E	67.9	E	59.6	E	59.6	E
	NBR	53.5	D	61.1	E	55	D	24.1	C	22	C	40.1	D	26.7	C	31.7	C
	NB Approach	54.4	D	62.6	E	56.7	E	40.2	D	40.3	D	54.2	D	43.8	D	46.2	D
	SBLTR	77.6	E	77.8	E	79.1	E	79.1	E	79.6	E	71	E	79.8	E	79.8	E
	SB Approach	77.6	E	77.8	E	79.1	E	79.1	E	79.6	E	71	E	79.8	E	79.8	E
	Overall Intersection	38.8	D	27.4	C	62.7	E	37.1	D	48.2	D	38.5	D	55.1	E	54.4	D
Intersection 2300 SR 714/Monterey Rd at SE Ray's Way (NB-Unsignalized, Build/TSM&O-Signalized)	EBL	22	C	22	C	21.5	C	21.5	C	31.3	C	31.3	C	33.9	C	34.3	C
	EBTR	42.6	D	42.6	D	43.5	D	43.5	D	34.1	C	34.1	C	30	C	30.9	C
	EBR	43.3	D	43.3	D	44.9	D	44.9	D	34.3	C	34.3	C	30.2	C	31.1	C
	EB Approach	42.7	D	42.7	D	43.9	D	43.9	D	34.1	C	34.1	C	30.2	C	31.1	C
	WBL	33.7	C	33.7	C	39.1	D	39.1	D	28.5	C	28.5	C	40.6	D	34.2	C
	WBTR	27.6	C	27.6	C	26.7	C	26.7	C	40.5	D	40.5	D	38.9	D	39.8	D
	WB Approach	27.9	C	27.9	C	27.8	C	27.8	C	39.6	D	39.6	D	40	D	40.2	D
	NBL	31	C	31	C	35.2	D	35.2	D	35.5	D	35.5	D	45.9	D	47	D
	NBTR	34.1	C	34.1	C	40.9	D	40.9	D	39.3	D	39.3	D	52.3	D	53.1	D
	NB Approach	33.8	C	33.8	C	40.8	D	40.8	D	37.3	D	37.3	D	54.6	D	55.7	E
	SBL	31.8	C	31.8	C	35.3	D	35.3	D	33.5	C	33.5	C	44.7	D	43.7	D
	SBTR (SBR)	36.4	D	36.4	D	43.3	D	43.3	D	39.2	D	39.2	D	53.5	D	52.1	D
	SB Approach	34.5	C	34.5	C	40	D	40	D	36.5	D	36.5	D	49.4	D	48.2	D
	Overall Intersection	36.5	D	36.5	D	37.5	D	37.5	D	37.3	D	37.3	D	38.8	D	39.2	D

7.4.3 Alternative 3 TSM&O Alternative Analysis

The Alternative 3 TSM&O analysis was performed by improving the previous Alternative 3 Synchro models with TSM&O intersection improvements and signal optimization as well.

As shown in **Table 18** the study intersections demonstrated improvements when the TSM&O improvements were applied. Similar to the No Build TSM&O scenario, several intersections are still projected to reach LOS F conditions by 2050 under the TSM&O scenario, they are generally greatly improved as compared to the initial Alternative 3 scenario. The following intersections will require extensive right-of-way acquisitions to increase the intersection's capacity to allow for levels of service better than LOS F:

- Intersection 3 (300) – SR 714/Monterey Road at SR 5/US 1
- Intersection 4 (400) – SR 714/Monterey Road at CR A1A
- Intersection 10 (1000) – CR A1A at Indian Street
- Intersection 16 (1600) – SR 5/US 1 at Indian Street

One additional unsignalized intersection, 5 (500) – CR A1A at Decker Avenue, experiences LOS F conditions for the minor street approaches in the 2050 PM Peak hour period, but due to the fact that this intersection is situated on a railroad crossing, additional improvements were deemed impractical.

THIS AREA WAS INTENTIONALLY LEFT BLANK

Table 18 – Alternative 3 TSM&O 2030 and 2050 Peak Hour Delays and LOS

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 100 SR 76/104/Monterey Road at SR 76/Kammer Highway (Signalized)	EBL	84.6	F	54.7	D	227.3	F	40.2	D	118	F	43.6	D	117.4	F	46.6	D
	EBT	46.9	D	51.1	D	73.9	E	68.8	E	43.5	D	54.4	D	46.2	D	52.4	D
	EBR	34	C	10.3	B	38	D	24.5	C	38.1	D	29.9	C	40	D	28.7	C
	EB Approach	60.1	E	48.4	D	126.3	F	53.1	D	70.8	E	47.8	D	69.9	E	46.6	D
	WBL	105.7	F	67.2	E	208.3	F	49.9	D	82.7	F	36.7	D	79.3	E	36.6	D
	WBT	74.6	E	68.1	E	78.5	E	62.5	E	110.2	F	71.6	E	172	F	83.9	F
	WBR	75.7	E	15.6	B	79.3	E	35.7	D	110.1	F	24.1	C	173.5	F	22.4	C
	WB Approach	83	F	60.2	E	113.6	F	54.9	D	105.5	F	61.7	E	157.9	F	71.2	E
	NBL	89.2	F	65.5	E	229	F	194.7	F	127.4	F	120.2	F	243	F	257.4	F
	NBT	85.9	F	62.2	E	149.4	F	61.5	E	52.5	D	49.8	D	57.6	E	49.4	D
	NBR	102.7	F	24.3	C	163	F	34.6	C	56.1	E	17.9	B	63.1	E	18.4	B
	NB Approach	91	F	54.8	D	168.5	F	81.4	F	71.1	E	61.9	E	112.5	F	104.5	F
	SBL	107.3	F	81.9	F	192	F	202.8	F	47.8	D	50.8	D	75	E	61.5	E
	SBT	64.3	E	53.5	D	83.2	F	54.3	D	103.1	F	49.1	D	60.6	E	44.3	D
	SBR	21.9	C	7.2	A	32	C	12.7	B	299.4	F	34.7	C	478.2	F	68.4	E
SB Approach	65.8	E	50.9	D	98.6	F	81	F	165.5	F	44.3	D	250	F	57.7	E	
Overall Intersection	71.6	E	52.1	D	127.2	F	66.3	E	109.8	F	52.9	D	155.1	F	69.7	E	
Intersection 200 SR 714/Monterey Road at Monterey Road Extension (Signalized)	EBL	39.2	D	38.9	D	39.9	D	39.4	D	33.3	C	32	C	33.6	C	32.5	C
	EBT	31	C	30	C	25.9	C	25	C	8.7	A	31.4	C	9.3	A	31.7	C
	EB Approach	31	C	30	C	26	C	25.1	C	8.8	A	31.4	C	9.5	A	31.7	C
	WBT	40.2	D	39.3	D	42.2	D	40.8	D	52.2	D	26.9	C	52.4	D	27.6	C
	WBR	40	D	39.1	D	42	D	40.6	D	51.9	D	26.7	C	52.2	D	27.4	C
	WB Approach	40.1	D	39.2	D	42.1	D	40.7	D	52	D	26.8	C	52.3	D	27.5	C
	NBL	68	E	71.8	E	68.1	E	71.9	E	65.3	E	68.5	E	65.3	E	68.5	E
	NBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NBR	43.5	D	44.3	D	42.5	D	43.2	D	51.1	D	50.4	D	51.1	D	50.4	D
	NB Approach	66.3	E	69.9	E	66.2	E	69.8	E	61.4	E	63.5	E	61.4	E	63.5	E
Overall Intersection	41.2	D	41.1	D	40.8	D	40.7	D	40.4	D	35.9	D	41.1	D	36.5	D	
Intersection 300 SR 714/Monterey Road at SR 5/US 1 (Signalized)	EBL	54.8	D	52.6	D	61.5	E	50.2	D	84	F	67.9	E	87.8	F	73.3	E
	EBT	71.1	E	80.7	F	70.1	E	63.2	E	67.3	E	71.5	E	68.1	E	72.1	E
	EBR	32.9	C	80.7	F	32.5	C	63.7	E	22.7	C	71.7	E	24.5	C	72.5	E
	EB Approach	64.6	E	76.5	E	63.3	E	60.8	E	68.4	E	70.7	E	71.3	E	72.6	E
	WBL	330.1	F	86.1	F	248.6	F	119.8	F	246.7	F	82	F	193.9	F	90.4	F
	WBT-R	65.8	E	62.8	E	65.3	E	69.6	E	63.1	E	69	E	64.6	E	67.7	E
	WB Approach	216.3	F	76.1	E	161.8	F	96	F	138	F	74.2	E	119.7	F	77.4	E
	NBL	71.4	E	76.5	E	65.9	E	59.8	E	39.1	D	43.5	D	38.9	D	54.6	D
	NBT	57.9	E	68.9	E	58	E	54.5	D	96	F	94	F	163.9	F	117.5	F
	NBR	73.9	E	0	A	75.9	E	0	A	13.3	B	0	A	10.6	B	0	A
	NB Approach	63.5	E	69.9	E	63.5	E	55.1	E	77.8	E	88.2	F	133.9	F	111.6	F
	SBL	84	F	60	E	110.2	F	54.9	D	53.4	D	64.1	E	49.9	D	55.7	E
	SBT	72.2	E	56.1	E	117.8	F	81.8	F	43.4	D	55	D	46.2	D	32.9	C
	SBR	53.8	D	40.3	D	54.1	D	37.1	D	33.4	C	30.4	C	29.6	C	16.4	B
SB Approach	71.6	E	55	D	111.5	F	74.9	E	43.7	D	53.6	D	45.1	D	34.8	C	
Overall Intersection	91.5	F	66.6	E	96	F	70.7	E	79.3	E	73.4	E	98.9	F	77.6	E	
Intersection 400 SR 714/Monterey Road at CR A1A/SE Dixie Highway (Signalized)	EBL	10.5	B	7.5	A	29.1	C	36.6	D	88.1	F	87.2	F	92.4	F	90	F
	EBT-R	23.5	C	34.5	C	30	C	26.8	C	35.8	D	23.1	C	34.6	C	52.4	D
	EB Approach	19.8	B	26.8	C	29.8	C	29.6	C	52.3	D	43.3	D	54.4	D	65.3	E
	WBL	42.3	D	58.8	E	52.9	D	70.3	E	36.5	D	52.6	D	90.8	F	53	D
	WBT-R	54.5	D	59.4	E	56.6	E	68.8	E	88.4	F	91.5	F	144.8	F	151.3	F
	WB Approach	51.4	D	59.2	E	55.6	E	69.2	E	83.7	F	88	F	133.5	F	130.7	F
	NBL	56.3	E	60.4	E	49.9	D	54.6	D	99.7	F	75.5	E	54.8	D	75	E
	NBT	53	D	54.8	D	51.8	D	52.9	D	83.2	F	88.2	F	95.3	F	104.7	F
	NBR	70.7	E	77.5	E	78.4	E	73.8	E	43.8	D	43.3	D	47.1	D	47.4	D
	NB Approach	57.2	E	41	D	67.6	E	33.8	C	67.5	E	57.8	E	66.7	E	61.9	E
	SBL	47	D	69.7	E	54.9	D	136.2	F	70.5	E	125.6	F	370.2	F	437.8	F
	SBT	48.7	D	68.2	E	46.2	D	65.5	E	54.9	D	63	E	113.5	F	109.4	F
	SBR	114.7	F	28.5	C	100.4	F	30.3	C	52.6	D	28	C	48.5	D	25.8	C
SB Approach	80.5	F	49.2	D	70.7	E	64.6	E	52.4	D	57.2	E	128.1	F	128	F	
Overall Intersection	48.8	D	41.6	D	53.7	D	46	D	63.5	E	61	E	99.7	F	99.8	F	
Intersection 500 SR A1A at Decker Avenue/SE Railroad Avenue (Unsignalized)	EB	13	B	13	B	17.6	C	17.6	C	31.7	D	31.7	D	212	F	212	F
	EB Approach	13	B	13	B	17.6	C	17.6	C	31.7	D	31.7	D	212	F	212	F
	WB	14.9	B	14.9	B	16.6	C	16.6	C	41.1	E	41.1	E	83.8	F	83.8	F
	WB Approach	14.9	B	14.9	B	16.6	C	16.6	C	41.1	E	41.1	E	83.8	F	83.8	F
	NB	0.5	A	0.5	A	0.5	A	0.5	A	0.2	A	0.2	A	0.3	A	0.3	A
	NB Approach	0.5	A	0.5	A	0.5	A	0.5	A	0.2	A	0.2	A	0.3	A	0.3	A
	SB	0.2	A	0.2	A	0.2	A	0.2	A	0.1	A	0.1	A	0.1	A	0.1	A
	SB Approach	0.2	A	0.2	A	0.2	A	0.2	A	0.1	A	0.1	A	0.1	A	0.1	A
Overall Intersection	14.9	B	14.9	B	17.6	C	17.6	C	41.1	E	41.1	E	212	F	212	F	
Intersection 600 SR A1A at Christie Way (Signalized)	WBL	28.6	C	31.9	C	29.3	C	31.5	C	41.5	D	22.4	C	49.3	D	22.3	C
	WBR	16.1	B	25.2	C	15.1	B	24.3	C	15.7	B	17.1	B	15.2	B	16.6	B
	WB Approach	28.3	C	31.8	C	28.9	C	31.3	C	38.5	D	21.8	C	45	D	21.6	C
	NBT	13.5	B	7	A	14.4	B	7.9	A	29.3	C	14.5	B	31.4	C	16	B
	NBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	NB Approach	13.5	B	7	A	14.4	B	7.9	A	29.3	C	14.5	B	31.4	C	16	B
	SBT	11	B	5.9	A	12.1	B	6.4	A	13.7	B	8.5	A	15.4	B	9	A
	SB Approach	11	B	5.9	A	12.1	B	6.4	A	13.7	B	8.5	A	15.4	B	9	A
Overall Intersection	19.1	B	17.3	B	20	B	17.5	B	26.8	C	14.7	B	29.7	C	15.4	B	
Intersection 700 SR A1A at SE Aviation Way (Signalized)	WBL	81.1	F	56.1	E	83.2	F	66.1	E	53.1	D	52.9	D	59.3	E	59.3	E
	WBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	68.9	E	46.8	D	67.5	E	46.9	D	46.6	D	46.6	D	46.6	D	46.6	D
	WB Approach	78.2	E	53.9	D	79.7	E	61.8	E	51.7	D	51.5	D	56.6	E	56.6	E
	NBL	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	NBT	6.2	A	8	A	7.2	A	8.7	A	6.2	A	6.2	A	6.7	A	6.7	A
	NBR	6.2	A	8	A	7.2	A	8.7	A	6.2	A	6.2	A	6.7	A	6.7	A
	NB Approach	6.2	A	8	A	7.2	A	8.7	A	6.2	A	6.2	A	6.7	A	6.7	A
	SBL	3.8	A	4.8	A	4.7	A	5.6	A	3.9	A	3.9	A	4.2	A	4.2	A
	SBT	2.2	A	2.8	A	2.6	A	2.9	A	3.2	A	3.2	A	3.6	A	3.6	A
	SBR	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
SB Approach	2.3	A	2.9	A	2.7	A	3.1	A	3.2	A	3.2	A	3.6	A	3.6	A	
Overall Intersection	8.6	A	8.5	A	9.4	A	9.4	A	6.7	A	6.7	A	7.1	A	7.1	A	



Table 18 – Alternative 3 TSM&O 2030 and 2050 Peak Hour Delays and LOS

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 800 SRA1A at SE Airport Road (Signalized)	EBL	53.6	D	53.6	D	53.1	D	53.1	D	52.9	D	52.9	D	54	D	54	D
	EBT	57.8	E	57.8	E	57.8	E	57.8	E	54.3	D	54.3	D	54.7	D	54.7	D
	EBR	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	EB Approach	54.7	D	54.7	D	54.3	D	54.3	D	53.1	D	53.1	D	54.1	D	54.1	D
	WBL	38.4	D	38.4	D	37.2	D	37.2	D	36.9	D	36.9	D	33.2	C	33.2	C
	WBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	54.5	D	54.5	D	54.1	D	54.1	D	56	E	56	E	54	D	54	D
	WB Approach	54.1	D	54.1	D	53.5	D	53.5	D	47.6	D	47.6	D	46.4	D	46.4	D
	NBL	59.7	E	59.5	E	62.2	E	61.4	E	63.2	E	57.1	E	339.2	F	192.1	F
	NBT	45.1	D	44.9	D	45.8	D	45.4	D	46.2	D	16.6	B	47	D	20.2	C
	NBR	19.2	B	19.2	B	17.2	B	17.2	B	16.7	B	0.8	A	13.9	B	0.8	A
	NB Approach	48.8	D	48.8	D	49.9	D	49.4	D	47.7	D	21.1	C	112.4	F	58.7	E
	SBL	25.4	C	25.4	C	28.8	C	28.8	C	26.8	C	12.9	B	31.5	C	15.8	B
	SBT	18.5	B	18.5	B	20.3	C	20.2	C	16	B	15.7	B	18.6	B	19.2	B
	SBR	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	SB Approach	19.4	B	19.4	B	21.4	C	21.4	C	16.4	B	15.6	B	19.2	B	19.1	B
	Overall Intersection	43.9	D	43.8	D	45.3	D	45	D	38.8	D	27.2	C	70.1	E	45.5	D
Intersection 1400 US 1 at Monterey Road Extension/Grumman Blvd (Signalized)	EBL	52.8	D	52.8	D	59.8	E	59.8	E	78.4	E	83.8	F	131.4	F	134.4	F
	EBT	66.7	E	66.7	E	61.3	E	61.3	E	51	D	51.2	D	50.8	D	49.9	D
	EBR	64.6	E	64.6	E	68.5	E	68.5	E	78.8	E	47.7	D	79.2	E	42.2	D
	EB Approach	62.7	E	62.7	E	62.6	E	62.6	E	68.3	E	60	E	84.5	F	73.1	E
	WBL	173.3	F	173.3	F	249.7	F	249.7	F	53	D	53.7	D	127.5	F	119.7	F
	WBT	55.7	E	55.7	E	52.3	D	52.3	D	47.9	D	47.8	D	49.4	D	47.5	D
	WBR	20.1	C	20.1	C	21.2	C	21.2	C	37.5	D	49.2	D	104	F	51.3	D
	WB Approach	111.9	F	111.9	F	162.6	F	162.6	F	44.6	D	50.1	D	94.1	F	69.3	E
	NBL	88	F	88	F	115.9	F	115.9	F	51	D	23.3	C	58	E	47.1	D
	NBT-R	33.2	C	33.2	C	35.2	D	35.2	D	26.7	C	42.4	D	39.1	D	52.1	D
	NB Approach	38.5	D	38.5	D	42.8	D	42.8	D	29	C	40.6	D	41.1	D	51.6	D
	SBL	53	D	38.1	D	60.5	E	51.2	D	64.2	E	33.8	C	149	F	131.2	F
	SBT-R	52.8	D	20.2	C	60.8	E	38.1	D	37.8	D	8.2	A	42.9	D	42.8	D
	SB Approach	52.8	D	21.8	C	60.8	E	39.4	D	39.3	D	9.6	A	55.9	E	53.6	D
	Overall Intersection	57.6	E	44.9	D	68.7	E	59.8	E	40.6	D	36.7	D	60	E	58.2	E
Intersection 1500 US 1 at Luckhardt Street (Signalized)	EBL	69.6	E	69.6	E	69.4	E	69.4	E	66.4	E	66.4	E	66.7	E	66.7	E
	EBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	EBR	63.1	E	63.1	E	62.8	E	62.8	E	55.5	E	55.5	E	55	D	55	D
	EB Approach	67.3	E	67.3	E	66.9	E	66.9	E	63.1	E	63.1	E	62.7	E	62.7	E
	WBL	65.4	E	65.4	E	65.7	E	65.7	E	60.3	E	60.3	E	60.6	E	60.6	E
	WBT	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
	WBR	60.1	E	60.1	E	59.7	E	59.7	E	52.8	D	52.8	D	51.6	D	51.6	D
	WB Approach	63	E	63	E	62.7	E	62.7	E	57.6	E	57.6	E	57.1	E	57.1	E
	NBL	26	C	22.7	C	19.5	B	19.5	B	34.1	C	34.4	C	38.5	D	26	C
	NBT	42.9	D	34.3	C	31.2	C	31.3	C	30.2	C	0.2	A	35.8	D	0.3	A
	NBR	28.9	C	23.5	C	20.4	C	20.4	C	15.4	B	0	A	15.2	B	0	A
	NB Approach	41.9	D	33.6	C	30.5	C	30.6	C	30.3	C	2	A	35.8	D	1.7	A
	SBL	13.4	B	11.7	B	16	B	16	B	47.2	D	22.5	C	50.1	D	24.4	C
	SBT	5.2	A	5.2	A	3.3	A	3.3	A	8.4	A	31.3	C	6.1	A	6	A
	SBR	1.9	A	1.9	A	1.1	A	1.1	A	4.5	A	19.3	B	2.8	A	2.8	A
	SB Approach	5.2	A	5.2	A	3.5	A	3.5	A	9.2	A	30.8	C	70	E	6.4	A
	Overall Intersection	22.9	C	19.6	B	17.5	B	17.6	B	24	C	17.8	B	26.2	C	7.7	A
Intersection 1600 US 1 at SE Indian Street (Signalized)	EBL	103.4	F	127.5	F	240.5	F	269	F	140.8	F	144.8	F	285.7	F	294.9	F
	EBT	53.3	D	66.8	E	55.2	E	60.4	E	66.8	E	62.3	E	67	E	59	E
	EBR	31.4	C	21.6	C	159.5	F	29.3	C	108.9	F	18.4	B	321.1	F	25.5	C
	EB Approach	64.1	E	75.3	E	155.7	F	130.9	F	104.8	F	82.8	F	229.9	F	149.5	F
	WBL	74.6	E	68.7	E	74.8	E	80	E	59.7	E	55.7	E	62.6	E	61.6	E
	WBT	62.9	E	68.3	E	64.4	E	69.1	E	68.7	E	62.3	E	67.9	E	62.4	E
	WBR	58.6	E	30.8	C	62.6	E	31.4	C	55.9	E	44.4	D	43.8	D	41.2	D
	WB Approach	64.7	E	61.1	E	66.4	E	63.9	E	63.5	E	56.4	E	60.9	E	57.1	E
	NBL	57.5	F	125.2	F	56.8	E	243.3	F	134.3	F	253.9	F	268.7	F	435.6	F
	NBT	39.3	D	59.8	E	33.6	C	63.5	E	96.8	F	101	F	155	F	161.2	F
	NBR	37.8	D	38.3	D	28.9	C	40.9	D	39.6	D	19.6	B	37.9	D	22.9	C
	NB Approach	43.8	D	73.9	E	40.2	D	115.6	F	63.5	E	131.1	F	179.8	F	227.5	F
	SBL	85	F	52.1	D	78.2	E	47.9	D	74.5	E	72.8	E	62.7	E	59.9	E
	SBT	159.6	F	49.7	D	191.5	F	45.8	D	63.4	E	45.7	D	59.8	E	49.9	D
	SBR	41	D	10.2	B	85.6	F	10	A	62.6	E	11.3	B	82.6	F	13.8	B
	SB Approach	131.5	F	44.5	D	160.1	F	39.4	D	64.7	E	43	D	65.2	E	42.6	D
	Overall Intersection	82.2	F	61.7	E	110.9	F	86	F	85.2	F	85.4	F	140.5	F	137.9	F
Intersection 1700 SR 5A between US 1 and A1A (Unsignalized)	EB	10.7	B	10.7	B	11.2	B	11.2	B	10.7	B	10.7	B	11.2	B	11.2	B
	EB Approach	10.7	B	10.7	B	11.2	B	11.2	B	10.7	B	10.7	B	11.2	B	11.2	B
	WB	9.9	A	9.9	A	10.6	B	10.6	B	10.4	B	10.4	B	11.3	B	11.3	B
	WB Approach	9.9	A	9.9	A	10.6	B	10.6	B	10.4	B	10.4	B	11.3	B	11.3	B
	NB	7.4	A	7.4	A	0.5	A	0.5	A	0.1	A	0.1	A	0.3	A	0.3	A
	NB Approach	7.4	A	7.4	A	0.5	A	0.5	A	0.1	A	0.1	A	0.3	A	0.3	A
	SB	7.6	A	7.6	A	0.3	A	0.3	A	0.1	A	0.1	A	0.2	A	0.2	A
	SB Approach	7.6	A	7.6	A	0.3	A	0.3	A	0.1	A	0.1	A	0.2	A	0.2	A
	Overall Intersection	10.7	B	10.7	B	11.2	B	11.2	B	10.7	B	10.7	B	11.3	B	11.3	B



Table 18 – Alternative 3 TSM&O 2030 and 2050 Peak Hour Delays and LOS

	Movement/ Approach	AM Peak Period								PM Peak Period							
		2030 Opening Year				2050 Design Year				2030 Opening Year				2050 Design Year			
		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O		Alternative 3		Alternative 3 TSM&O	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
Intersection 2200 SR 714/Monterey Rd at Willoughby Blvd (Signalized)	EBL	20.7	C	20.7	C	23.3	C	23.3	C	54.9	D	69.3	E	61.4	E	124.5	F
	EBTR	50.7	D	36.8	D	81.8	F	43.8	D	64	E	48.4	D	73.5	E	54.2	D
	EB Approach	50.1	D	31.6	C	78.8	E	36.8	D	63.6	E	43.9	D	72.4	E	54.5	D
	WBL	61.5	E	27.9	C	60.2	E	42.9	D	105.8	F	67.6	E	167.9	F	74.4	E
	WBTR	24.1	C	24.1	C	30.1	C	30.1	C	42.8	D	45.8	D	73.9	E	56.7	E
	WB Approach	30.8	C	24.8	C	35.1	D	32.2	C	54.7	D	49.9	D	90.8	F	59.9	E
	NBL	57.5	E	57.5	E	59	E	59	E	61.1	E	52.9	D	62.3	E	63.2	E
	NBT	57.4	E	57.4	E	58.8	E	58.8	E	60.7	E	52.6	D	61.9	E	62.9	E
	NBR	54.9	D	42.8	D	55	D	41.3	D	54.9	D	31.9	C	55	D	36.8	D
	NB Approach	56	E	48.9	D	56.7	E	49.2	D	57.9	E	42.3	D	58.7	E	50.4	D
	SBLTR	77.6	E	77.6	E	79.1	E	79.1	E	79.6	E	71	E	81.2	F	81.9	F
	SB Approach	77.6	E	77.6	E	79.1	E	79.1	E	79.6	E	71	E	81.2	F	81.9	F
	Overall Intersection	46.3	D	33.9	C	61.6	E	39.1	D	59.3	E	47.7	D	79	E	57.8	E
Intersection 2300 SR 714/Monterey Rd at SE Ray's Way (NB-Unsignalized, TSM&O-Signalized)	EBL	22	C	22.3	C	21	C	21.5	C	31.2	C	31	C	33.7	C	33	C
	EBTR	42.6	D	44.5	D	41.2	D	43.5	D	33.5	C	33.7	C	27	C	29.1	C
	EBR	43.3	D	45.2	D	42.4	D	44.9	D	33.6	C	33.8	C	27.1	C	29.3	C
	EB Approach	42.7	D	44.5	D	41.5	D	43.9	D	33.5	C	33.7	C	27.3	C	29.3	C
	WBL	33.7	C	34.3	C	42.5	D	39.1	D	28.5	C	28.2	C	55.4	E	39.1	D
	WBTR	27.6	C	28	C	26.2	C	26.7	C	39.9	D	39.5	D	38.1	D	37.2	D
	WB Approach	27.9	C	28.4	C	27.6	C	27.8	C	39.2	D	38.8	D	40.8	D	38.2	D
	NBL	31	C	30.6	C	35.6	D	35.2	D	34.5	C	35.7	D	42	D	44.5	D
	NBTR	34.1	C	33.7	C	40.8	D	40.9	D	38	D	39.5	D	47.1	D	50.6	D
	NB Approach	33.8	C	33.3	C	40.8	D	40.8	D	38.3	D	39.8	D	48.6	D	52.5	D
	SBL	31.8	C	31.3	C	36.3	D	35.3	D	34.5	C	33.8	C	53.1	D	48.6	D
	SBTR (SBT)	0	A	0	A	0	A	0	A	0	A	0	A	54.2	D	54.9	D
	SBR	36.4	D	35.9	D	44	D	43.3	D	39.3	D	39.5	D	-	-	-	-
	SB Approach	34.5	C	34	C	40.8	D	40	D	37.1	D	36.8	D	53.7	D	52	D
	Overall Intersection	36.5	D	37.5	D	36.4	D	37.5	D	36.9	D	36.8	D	38.2	D	37.7	D

THIS AREA WAS INTENTIONALLY LEFT BLANK

7.5 Future Queue Analysis

An analysis was performed to establish where 2050 projected volumes will cause turn-bay queues to spill back into the through lanes. As shown in **Table 19**, the 2050 No Build Synchro models were used to identify the 95th percentile queue lengths, which were then compared to the existing turn-bay storage lengths. Included in Table 19 are the proposed new turn-bay lengths for the existing intersections as well as the proposed intersections.

THIS AREA WAS INTENTIONALLY LEFT BLANK

Table 19 –Queue Analysis Results

	Time Period	Scenario	95th Percentile Queue Length (feet)							
			Eastbound		Westbound		Northbound		Southbound	
			L	R	L	R	L	R	L	R
Intersection 100 SR 714/Monterey Road at SR 76/Kanner Highway (Signalized)	AM Peak	NoBuild	#897	191	#318	na	#503	na	#894	213
	PM Peak	NoBuild	#539	61	m#214	na	#728	na	#575	#1199
	Existing Storage (feet)	NoBuild	450	180	330	na	620	na	380	420*
Intersection 200 SR 714/Monterey Road at Monterey Road Extension (Signalized)	Proposed Storage (feet)	All	900	180	330	na	775	na	950	420
	AM Peak	NoBuild	9	na	na	na	239	0	17	0
	PM Peak	NoBuild	m5	na	na	na	517	m0	31	0
Intersection 300 SR 714/Monterey Road at SR 5/US 1 (Signalized)	Existing Storage (feet)	NoBuild	120	na	na	na	320	>320	na	na
	Proposed Storage (feet)	All	120	na	na	na	575	na	na	na
	AM Peak	NoBuild	#341	9	m#899	na	#196	#576	#330	132
	PM Peak	NoBuild	#532	8	#911	na	m#371	m138	#356	17
Intersection 400 SR 714/Monterey Road at CRA1A/SE Dixie Highway (Signalized)										
	Existing Storage (feet)	NoBuild	330	530	250	na	460	260	380	260
	Proposed Storage (feet)	All	600	530	1000	na	460	525	380	260
	AM Peak	NoBuild	m204	na	#330	na	#452	341	123	149
		Alt 2	397	na	#341	na	124	410	203	102
	PM Peak	NoBuild	#628	na	#740	na	#528	384	m#148	m#415
		Alt 2	m#441	na	368	na	m#211	#937	m#684	m63
Intersection 600 SRA1A at Christie Way (Signalized)	Existing Storage (feet)	NoBuild	80	na	720	na	310	350	300	500
	Proposed Storage (feet)	All Others	700	na	800	na	575	425	300	500
		Alt 2	500	na	450	na	300	1000	750	250
	AM Peak	NoBuild	na	na	571	17	na	na	na	na
	PM Peak	NoBuild	na	na	845	25	na	na	na	na
Intersection 600 SRA1A at Christie Way (Signalized)										
	Existing Storage (feet)	NoBuild	na	na	200	200	na	na	na	na
	Proposed Storage (feet)	All	na	na	900	200	na	na	na	na
#: 95 th percentile volume exceeds capacity, queue maybe longer m: Volume for 95 th queue is metered by upstream signal, *: Lane drop. Storage length noted above is turn pocket length or link distance per lane to adjacent signalized intersection.										

Table 19 –Queue Analysis Results, Cont'd

	Time Period	Scenario	95th Percentile Queue Length (feet)							
			Eastbound		Westbound		Northbound		Southbound	
			L	R	L	R	L	R	L	R
Intersection 700 SRA1A at SE Aviation Way (Signalized)	AM Peak	NoBuild	na	na	na	0	na	na	22	na
	PM Peak	NoBuild	na	na	na	25	na	na	m6	na
	Existing Storage (feet)	NoBuild	na	na	na	450	na	na	250	na
	Proposed Storage (feet)	All	na	na	na	450	na	na	250	na
Intersection 800 SRA1A at SE Airport Road (Signalized)	AM Peak	NoBuild	na	na	43	33	na	8	9	na
	PM Peak	NoBuild	na	na	70	53	na	m1	5	na
	Existing Storage (feet)	NoBuild	na	na	150	400	na	270	240	na
	Proposed Storage (feet)	All	na	na	150	400	na	270	240	na
Intersection 900 SRA1A between US 1 and A1A (Unsignalized)	AM Peak	NoBuild	123	na	na	na	na	na	na	na
	PM Peak	NoBuild	66	na	na	na	na	na	na	na
	Existing Storage (feet)	NoBuild	40	na	na	na	na	na	na	na
	Proposed Storage (feet)	All	175	na	na	na	na	na	na	na
Intersection 1000 SRA1A at SE Indian Street (Signalized)	AM Peak	NoBuild	m#488	m360	110	na	#802	na	m84	160
	PM Peak	NoBuild	#428	#508	#223	na	#835	na	105	#802
	Existing Storage (feet)	NoBuild	310	220	220	na	200	na	150	200
	Proposed Storage (feet)	All	550	550	275	na	900	na	150	850
Intersection 1100 US 1 at SR 5A (Unsignalized)	AM Peak	NoBuild	na	na	na	na	na	na	28	na
	PM Peak	NoBuild	na	na	na	na	na	na	64	na
	Existing Storage (feet)	NoBuild	na	na	na	na	na	na	240	na
	Proposed Storage (feet)	All	na	na	na	na	na	na	240	na
#: 95 th percentile volume exceeds capacity, queue maybe longer m: Volume for 95 th queue is metered by upstream signal, *: Lane drop. Storage length noted above is turn pocket length or link distance per lane to adjacent signalized intersection.										

Table 19 –Queue Analysis Results, Cont'd

	Time Period	Scenario	95th Percentile Queue Length (feet)							
			Eastbound		Westbound		Northbound		Southbound	
			L	R	L	R	L	R	L	R
Intersection 1200 US 1 at Decker Avenue (Unsignalized)	AM Peak	NoBuild	na	na	51	4	na	na	2	na
	PM Peak	NoBuild	na	na	87	5	na	na	4	na
	Existing Storage (feet)	NoBuild	na	na	150	150	na	na	130	na
Intersection 1300 US 1 at Central Parkway (Signalized)	Proposed Storage (feet)	All	na	na	150	150	na	na	150	na
	AM Peak	NoBuild	na	64	na	0	m48	na	26	26
	PM Peak	NoBuild	na	103	na	0	m78	na	22	45
Intersection 1400 US 1 at Monterey Road Extension/Grumman Blvd (Signalized)	Existing Storage (feet)	NoBuild	na	200	na	200	300	na	280	270
	Proposed Storage (feet)	All	na	200	na	200	300	na	280	270
	AM Peak	NoBuild	211	142	32	na	148	0	53	0
	PM Peak	NoBuild	m#248	m73	241	na	m207	m0	m0	m1
Intersection 1500 US 1 at Luckhardt Street (Signalized)										
	Existing Storage (feet)	NoBuild	200	240	220	na	300	260	350	200
	Proposed Storage (feet)	All	300	240	300	na	300	260	350	200
	AM Peak	NoBuild	171	na	na	na	82	0	19	18
Intersection 1600 US 1 at SE Indian Street (Signalized)	PM Peak	NoBuild	272	na	na	na	m97	m0	m19	m7
	Existing Storage (feet)	NoBuild	180	na	na	na	420	200	370	290
	Proposed Storage (feet)	All	350	na	na	na	420	200	370	290
	AM Peak	NoBuild	#364	287	m188	m76	#489	177	#401	193
Intersection 1600 US 1 at SE Indian Street (Signalized)										
	PM Peak	NoBuild	#450	104	#397	#481	#682	68	#454	130
	Existing Storage (feet)	NoBuild	380	300	360	280	400	880	430	500
	Proposed Storage (feet)	All	500	300	450	550	750	880	500	500
# : 95 th percentile volume exceeds capacity, queue maybe longer m: Volume for 95 th queue is metered by upstream signal, *: Lane drop. Storage length noted above is turn pocket length or link distance per lane to adjacent signalized intersection.										

Table 19 –Queue Analysis Results, Cont'd

	Time Period	Scenario	95th Percentile Queue Length (feet)							
			Eastbound		Westbound		Northbound		Southbound	
			L	R	L	R	L	R	L	R
Intersection 1800 Monterey Road & Christy Way Ext (Signalized)	AM Peak	Alt 1	#275	na	na	80	na	na	82	69
	PM Peak	Alt 1	m#240	na	na	248	na	na	94	94
Intersection 2100 SE Palm Beach Rd & SE 16th Street/Christy Way Ext (Signalized)	Proposed	Alt 1	350	na	na	300	na	na	150	150
	AM Peak	Alt 1	na	na	#197	62	0	0	#236	na
	PM Peak	Alt 1	na	na	#352	76	22	66	#210	na
	Proposed Storage (feet)	Alt 1	na	na	400	150	100	100	300	na
#: 95 th percentile volume exceeds capacity, queue maybe longer m: Volume for 95 th queue is metered by upstream signal, *: Lane drop. Storage length noted above is turn pocket length or link distance per lane to adjacent signalized intersection.										

7.6 Performance Index Analysis

Using Synchro's Performance Index calculations it is possible to provide a side by side comparison of proposed build alternatives. This is particularly useful for when analyzing such a large and complicated study area. This Performance Index takes into account a variety of measures of effectiveness (MOEs) within Synchro in order to calculate an overall score for each alternative. **Table 20** provides the included scores for each peak hour analyzed and an overall combined score for each alternative.

Table 20 –Performance Index Comparison

AM Peak Period							
Network Totals	2022 Existing	2050 No Build	2050 NB-TSM&O	2050 Alternative 1	2050 Alt 1-TSM&O	2050 Alternative 3	2050 Alt 3-TSM&O
Number of Intersections	23	23	23	27	27	23	23
Total Delay (hr)	339	1,310	842	1,347	863	1,154	752
Stops (#)	22,475	37,710	42,233	39,198	43,021	36,581	40,702
Average Speed (mph)	21	11	15	12	16	12	16
Total Travel Time (hr)	703	1,843	1,396	1,950	1,465	1,649	1,249
Distance Traveled (mi)	14,431	21,159	21,064	23,379	23,379	19,560	19,560
Fuel Consumed (gal)	993	2,106	1,791	2,225	1,915	1,918	1,669
Fuel Economy (mpg)	14.5	10	11.8	10.5	12.2	10.2	11.7
Performance Index	401.2	1,415	960	1,456	982	1,256	866
PM Peak Period							
Network Totals	2022 Existing	2050 No Build	2050 NB-TSM&O	2050 Alternative 1	2050 Alt 1-TSM&O	2050 Alternative 3	2050 Alt 3-TSM&O
Number of Intersections	23	23	23	27	27	23	23
Total Delay (hr)	414	1,940	1,345	1,868	1,289	1,780	1,099
Stops (#)	25,549	43,675	50,760	45,878	51,971	43,297	47,452
Average Speed (mph)	20	10	12	10	13	10	14
Total Travel Time (hr)	834	2,550	1,977	2,558	1,979	2,364	1,686
Distance Traveled (mi)	16,665	24,245	24,120	26,691	26,691	23,018	23,019
Fuel Consumed (gal)	1154	2,735	2,356	2,787	2,429	2,568	2,115
Fuel Economy (mpg)	14.4	8.9	10.2	9.6	11	9	10.9
Performance Index	484.6	2,061	1,486	1,995	1,434	1,900	1,231
Combined Performance Index	886	3,476	2,445	3,451	2,416	3,156	2,097
Rank	-	6	3	5	2	4	1

As shown in **Table 21**, Alternative 3-TSM&O demonstrates the best potential improvements over the No Build scenario.

8.0 Future Safety Benefits

This section quantifies the benefits of the proposed project alternatives using Federal Highway Administration's (FHWA) Crash Modification Factors (CMF).

8.1 Selection of Crash Modification Factors

The alternatives identified with this analysis limit the types of CMFs that can be applied. In fact, the only factor identified was the Conversion of an At-Grade Intersection into a Grade-Separated Interchange (CMF ID:459). For Alternative 1, the existing at-grade intersection of SR 714/Monterey Road and CR A1A would be converted to a grade-separated interchange. Unfortunately, Alternative 3, which essentially only adds a new leg to an existing intersection, does not benefit from any identified CMFs. However, Alternative 3 does significantly reduce traffic volumes along SR 714/Monterey Road, at CR A1A, which may add an unquantifiable safety benefit due to reduced exposure.

Appendix J includes the CMF's back-up information

8.2 Safety Benefit Calculation

Section 3.14 described the historical crash data for the intersection of SR 714/Monterey Road and CR A1A. For this intersection, 5-year averages for Fatal Crashes, Injury Crashes and Property Damage Only Crashes were calculated. **Table 21** provides the reduction in annual crashes for Alternative 1.

Table 21 – Annual Crash Reduction Calculations

Type of Crash	CMF	Annual Crash Reduction		
		No Build (5yr Avg)	Alternative 1	Alternative 3
Fatal	0	0	0	NA
Injury	0.43	7	3.01	NA
Property Damage Only	0.64	27	17.28	NA
Total	0.58	34	19.72	NA

9.0 CONCLUSIONS

The purpose of this Traffic Analysis was to evaluate three (3) project alternatives to improve traffic operations, emergency evacuation route while providing a more efficient system linkage and enhancing multimodal connectivity to support social and transportation related demands.

Based on Martin County's historical traffic assessment, there are major contributing factors to the traffic congestion/delay within the area, which are intensified when railroad crossing gates are down during deliveries for the following two (2) concrete plants:

- CEMEX located at 1232 SE Dixie Highway, Stuart, FL 34994
- Supermix located at 1715 SE Federal Highway, Stuart, FL 34994

The Department chose to perform this PD&E to address this intersection's unique issues and constraints by exploring potential alternatives to eliminate or reduce the conflicts within the railroad crossings while enhancing the traffic operations of the subject intersection, providing a safer and more efficient transportation system for our community.

To this end, Alternative 1, through its grade-separation method, alleviates the roadway and railroad conflicts. However, this alternative creates new potential issues by pushing the majority of the traffic from the SR 714/Monterey Road and CR A1A intersection into the adjacent residential neighborhood, and by potentially conflicting with the Witham Field flight paths.

Alternative 3 on the other hand does not eliminate the existing railroad conflict, nor does it offer the related safety benefits, but it does offer an alternative route for drivers to travel through the study area while remaining out of the residential neighborhoods. In addition, this alternative reduces volume and delay at the SR 714/Monterey Road at SR A1A signalized intersection.

As shown through the traffic operations analysis, many of the study intersections will begin failing by the 2030 opening year, with or without the improvements

identified in each of the study alternatives. By the 2050 design year many more intersections will fail, as is typical of most locations in South Florida when major capacity improvements are not provided.

From the Synchro Performance Index perspective, the scoring demonstrates that Alternative 3-TSM&O provides the best option across a variety of MOEs, followed by Alternative 1 and No-build. As Alternative 2 would suffer increase delays as compared to Alternative 1, which has already shown to be inferior to Alternative 3, additional analysis would not demonstrate a superior option. As such, Alternative 3-TSM&O is the recommended alternative.

Appendix A

MLOU
September 2024

Appendix B

Initial Traffic Forecasting Memo April 2023

Appendix C

Updated Traffic Forecasting Memo August 2024

Appendix D

Revised Traffic Forecasting Memo December 2024

Appendix E

Martin County Transit Maps

Appendix F

Existing Condition Synchro Output Reports

Appendix G

Qualitative Safety Analysis Summary

Appendix H

Future Conditions Synchro Output Reports

Appendix I

Full Synchro Output Table

Appendix J

FHWA CMFs