NOVEMBER 2017

Naples
FLORIDA

DOWNTOWN NAPLES MOBILITY & CONNECTIVITY STUDY

FINAL RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES

Downtown Naples Mobility & Connectivity Study

Naples, Florida

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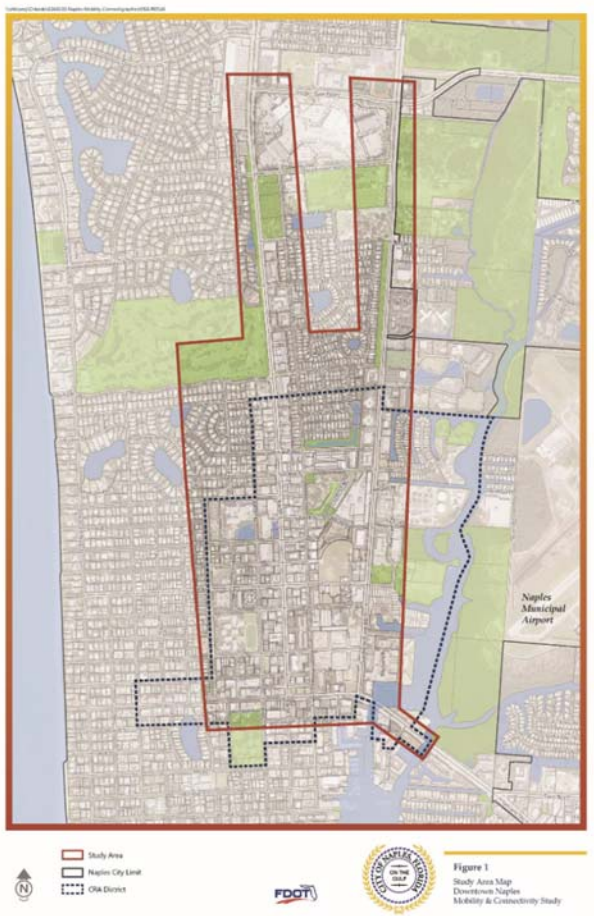
Executive Summary

The Downtown Naples Mobility & Connectivity Study began in June 2016 with a purpose of transforming the City's existing transportation infrastructure so that it supports the mobility goals for the City and assists in the design of a healthy and prosperous downtown area. The study area incorporated the transportation system within the boundaries show in Figure 1. The study evaluated the transportation network for pedestrians, bicycles, and motorized vehicles.

Two final alternative scenarios were developed, the Base Build and Enhanced Build, each providing a variety of optional techniques aimed at improving facilities for all users. The Implementation Plan presented in this report includes a series of 16 projects, see Table ES-1, that draw from both the Base and Enhanced Build alternatives. The resulting Implementation Plan serves as guidance for improving transportation mobility and connectivity throughout the study area.



The study engaged local community representatives and incorporated community thoughts and concerns. The Alternatives Development Review Team (ADRT) was established to provide guidance on the direction of the study. Representatives from the City of Naples, the Community Redevelopment Agency (CRA), Collier County, Collier Area Transit (CAT), Collier County Public Schools, Collier MPO, FDOT, and other organizations were included. The project team met with the ADRT on three separate occasions throughout the course of the study and invited ADRT members to major public outreach events, including a project update presentation made to the City Council in January 2017 and a three-day charrette held in October 2016. This provided the opportunity to share publicly the goals of the study and solicit thoughts related to study. Comments were well received, as evidenced by the adjustments made in the scope of the traffic analysis that were incorporated to meet expressed concerns.

The study included a review of and recommendations on parking within the Downtown District. The results of that task are presented in an independent document that has been previously submitted to the City. Parking is closely related to the transportation system as an origin/destination but is not a part of the network that this report addresses.

Similarly, the traffic analysis for the motorized mode involved several iterations of analyses including annual average peak hours and peak-season peak hours for 2016/2017 and 2040.

The refined results of those analyses are presented in this report while the methodology, analytical details, and models are contained in independent, supporting documents previously submitted to the City.

The study includes suggested edits and rewrites in City policies that would support the implementation of the recommended transportation improvements. Documents that were reviewed include, among others, the City's Comprehensive Plan, Pedestrian and Bicycle Master Plan, and Community Redevelopment Agency Plan.

The most significant recommendations put forth in this report include converting 9th Street/US 41 and 5th Avenue S/US 41 from six travel lanes (three in each direction) to four travel lanes (two in each direction with parallel parking lanes); modifying the outside pedestrian edges of the Gordon River Bridge to shared use paths; opening 12th Street S to two-way traffic; and providing a network of defined bicycle facilities from the Gordon River Bridge west along 6th Avenue S and north on 8th Street and then on 9th Street/US 41 to Golden Gate Parkway. Additional key recommendations include a range of suggested improvements including roundabouts on collector roadways and improvements to eliminate the gaps in the sidewalk system and improve the overall connectivity of the pedestrian network in the City. Analyses performed in conjunction with this study do not indicate increased traffic volumes on neighborhood roadways; however, traffic calming strategies on primarily residential roadways may be implemented to lower speeds and discourage the use of local facilities for regional trips. Such strategies include stop controls, landscaped medians, and narrower lanes, among others.

It has been stated that a transportation network that is safe for pedestrians is safe for everyone. With 467 reported crashes along US 41 within the study area from June 1, 2012 to May 31, 2015 the historical crash rate is higher than average State and County rates on similar facilities. With the recommendations, the predicted number of crashes for a 3-year period drops to an estimate of 369, a 21% reduction.

The economic impact of implementing the recommendations in the report is estimated to increase property values along 9th Street/US 41 in a range of 70 – 140%; this translates to an increase in property tax revenues of $300,000 - $600,000 potentially paid to the City and $1.5M - $3.0M going to the County. Some portion of these increases will be obtained from projects that are already in the final stages or have received approval for development.

The recommended improvements that are the result of the study findings, input from the ADRT, and information gained from public comment are shown in Table ES-1. The packaged set of recommendations, referred to in this document as the Implementation Plan, is almost entirely composed of the proposed facilities in the Enhanced Build. The cycle tracks proposed for 8th Street and 4th Avenue N in the Enhanced Build are not included in the Implementation Plan. The cycle tracks were replaced with the buffered bike lanes proposed in the Base Build. Additionally, the recommended reduction in the number of lanes on US 41 must be evaluated and approved by the City Council in coordination with the Florida Department of Transportation.

While not recommended at this time, future consideration for a roundabout at the Four Corners intersection should be evaluated based on resulting traffic reduction and travel pattern modifications following implementation of the US 41 lane reduction.

Table ES-1: Summary of Recommended Improvements

#	Project	Pedestrian	Bicycle	Motorized Vehicle	Transit	Intersection Improvements	On-street Parking
1	**Gordon River Bridge**	Shared Use Path		8 lanes	Routes 11, 13, 14	-	-
2	**8th St S:** 6th Ave S - Central Ave	8' Sidewalks	Buffered Bike Lanes	2 lanes	Routes 13, 14	Replace signal with roundabout at 8th St N & 3rd Ave N	Parallel
3	**8th St N:** Central Ave - 7th Ave N	5' Sidewalk (W) 8' Sidewalk (E)	Buffered Bike Lanes	2 lanes	Routes 13, 14	-	Parallel
4	**12th St S:** 6th Ave S - 5th Ave S/US 41	Shared Use Path (W) 9' Sidewalk (E)	Shared Use Path (W)	2 lanes	-	-	Parallel (E)
5	**Fill the Gaps**	Varies					
6	**5th Ave S/US 41:** Four Corners - Goodlette-Frank Rd	10' Sidewalks	-	4 lanes	Routes 11, 13, 14	Modify geometry at US 41 & Goodlette-Frank Rd (See Figure 27)	Parallel
7	**4th Ave N:** 6th St N - 8th St N	8' Sidewalks	Buffered Bike Lanes	2 lanes	-	-	-
8	**5th Ave N:** 8th St N - Goodlette-Frank Rd	5' Sidewalk (N) Shared Use Path (S)	Shared Use Path (S)	2 lanes	-	-	Parallel
9	**7th St N:** 4th Ave N - 7th Ave N	Buffered Shoulder		2 lanes	-	-	-
10	**9th St/US 41:** Four Corners - 7th Ave N	10' Sidewalks	-	4 lanes	Routes 11, 13, 14	Modify geometry at Four Corners intersection (See Figure 26) Install signals at 9th St S & 1st Ave S and 9th St N & 5th Ave N	Parallel
11	**6th Ave S:** 8th St S - 12th St S	Shared Use Path (N) 10' Sidewalk (S)	Shared Use Path (N)	2 lanes	-	-	Parallel (S)
12	**3rd Ave S:** 9th St S - Goodlette-Frank Rd	8' Sidewalks	Buffered Bike Lanes	2 lanes	-	-	Parallel
13	**4th Ave N:** Gulf Shore Blvd - 6th St N	5' Sidewalks	Buffered Bike Lanes	2 lanes	-	-	-
14	**7th Ave N:** 8th St N - Goodlette-Frank Rd	8' Sidewalk (N) Shared Use Path (S)	Shared Use Path (S)	2 lanes	-	-	-
15	**9th St/US 41:** 7th Ave N - 14th Ave N	Shared Use Path (W) 6' Sidewalk (E)	Shared Use Path (W)	6 lanes	Routes 11, 13, 14	-	-
16	**10th St:** Central Ave - 6th Ave N	9' Sidewalk (W) 6' Sidewalk (E)	Sharrows	2 lanes	-	Replace signal with roundabout at 10th St N & 5th Ave N	-

1

Introduction

The City of Naples embarked on the Downtown Naples Mobility & Connectivity Study in June 2016 with a purpose set forth to guide and transform the City's existing transportation infrastructure so that it supports the existing and future health and prosperity of the downtown area. Naples enjoys affluence which is not afforded by many communities. The high quality of life comes from a well-orchestrated system of land use, transportation, and services requiring active contributions from all.

Transportation is one of the components of civic architecture in any community. To be of a high quality, it requires the same level of attention in the details that any grand building does. Over the past fifty to seventy years (post World War II) most transportation systems gave the automobile highest priority; 9th Street/US 41 is a good example. This dominance of the automobile was most often to the detriment of other alternatives, namely walking and biking. Years ago, the City of Naples chose to transform 5th Avenue South to a more inviting and walkable street, which redeveloped into a thriving commercial district. The recommendations of this study aim to expand this prosperity into the redevelopment areas of downtown to the north and east for the benefit of existing and future residents, guests, and visitors. The goal is for a well-connected, balanced transportation system with value placed appropriately on all modes. The guidance provided here will shift the transportation network from auto-centric to multimodal, thereby improving safety and providing choices for travel through enhanced mobility and connectivity.

This study addresses the infrastructure component in line with the Blue Zones® structure brought to the City in 2015. Per the Centers for Disease Control, regular physical activity is one of the most important things people can do for their health. To maximize the opportunity for physical

activity, the transportation system should include street and thus modal connectivity, pedestrian infrastructure, bicycle infrastructure, public transit access, mixed land uses, residential density, and proximity to neighborhood destinations, parks and recreational facilities. Naples has many of these built environment elements already in place or underway. The recommendations included in this report seek to advance the progress already made by the City.

The study was inclusive of other planning activities, studies and design in infrastructure; traffic operations management; policy re-writes; wayfinding; land development; and park construction. In addition, an Alternatives Development Review Team (ADRT) was organized to provide feedback throughout the process, and a public multi-day charrette was held in October 2016. City Council briefings were provided by staff and the consultant team. Comments were delivered to the study team continuously during the analytical phase of the study. This collaboration and sharing of information was the method used to develop the most comprehensive results possible, to serve all those whom use the transportation network, and to respond to the direct input received from the community.

The core study area boundaries are generally defined as 6th Avenue South, 7th Avenue North, Goodlette-Frank Road, and 6th Street; with two "fingers" reaching north along 9th Street/US 41 and along Goodlette-Frank Road to Golden Gate Parkway; and extending southeast along the continuation of US 41 across the Gordon River Bridge. The study area is shown in Figure 1. During the study process, Collier County requested the traffic study area to expand to include four intersections southeast of the Gordon River Bridge. This request was addressed within the traffic operations analyses; however, the recommendations in this report focus on the original study area.

The study included an assessment of existing peak season conditions and a comparison to potential 2040 No Build, Base Build, and Enhanced Build alternatives in transportation infrastructure and corresponding operations. The results identify levels of service for pedestrian, bicycle, and automobile, and observations relative to transit; the calculated economic benefits of the recommendations; and an evaluation of policies which would require modifications to support multimodal accessibility. Of importance to note is the fact that improvement in bicycle and pedestrian level of service can be correlated directly to improvements in bicycle and pedestrian safety.

Throughout the course of the study a series of technical memoranda and reports, as listed in the Table of Contents, have been produced that address the details of the data collection and evaluation, the forecasting of future year peak-season peak-hour traffic volumes, the evaluation of multiple alternatives considered, and the options evaluated in the development of the transportation network recommendations. This report provides the summarized results from those studies. These results were then used to develop a series of recommendations for enhancing the transportation network and improving mobility and connectivity throughout the study area. The recommendations are presented in a timeline of short-term, mid-term, and long-term implementation; however, as funding opportunities are identified, follow-through is encouraged in collaboration with affected neighboring jurisdictions, property owners and developers, organizations, and governmental agencies.

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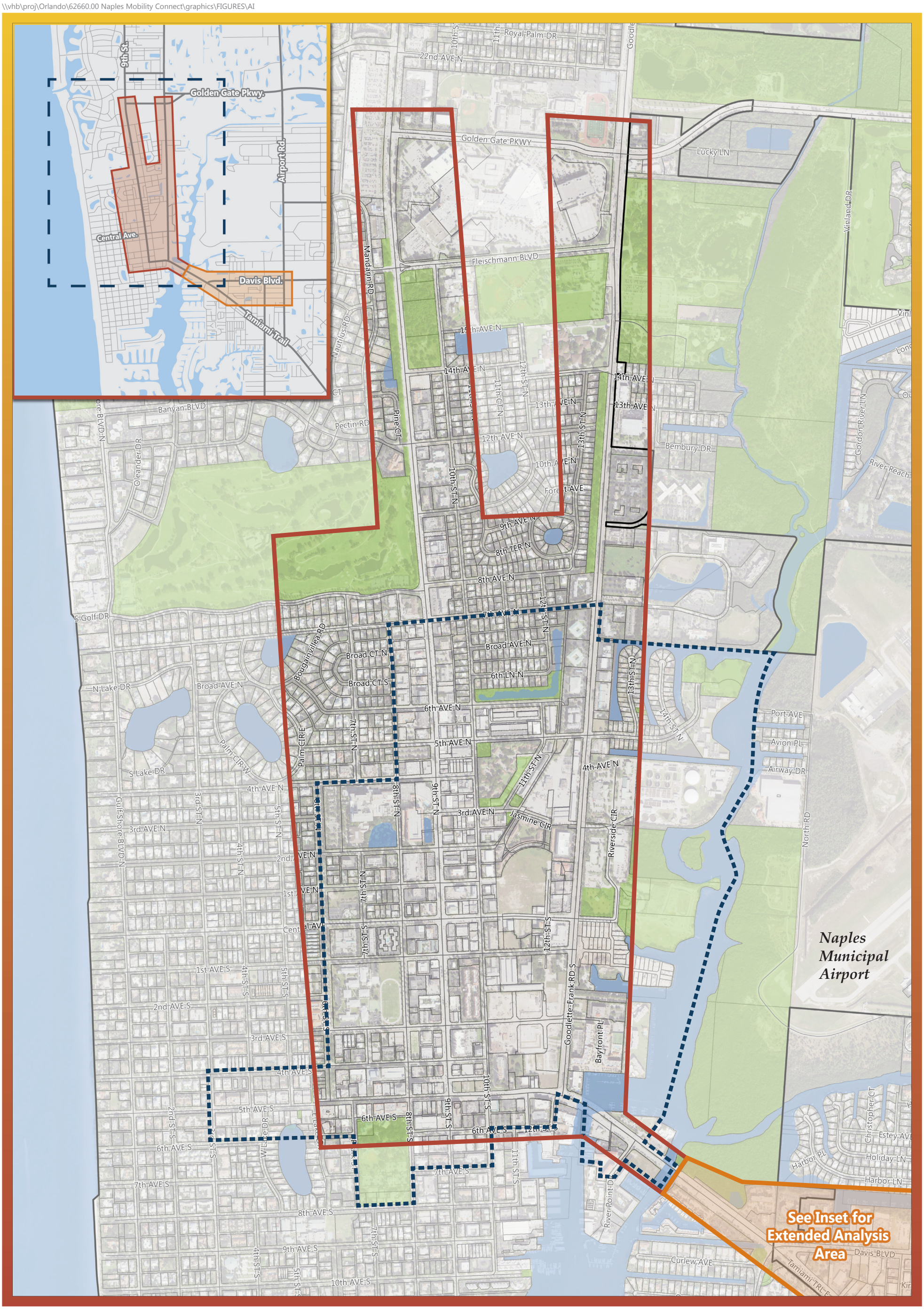


Study Area

Extended Analysis Area

Naples City Limit

CRA District

CITY OF NAPLES, FLORIDA
ON THE GULF

Figure 1

Study Area Map
Downtown Naples
Mobility & Connectivity Study

2

Evaluation of Alternatives

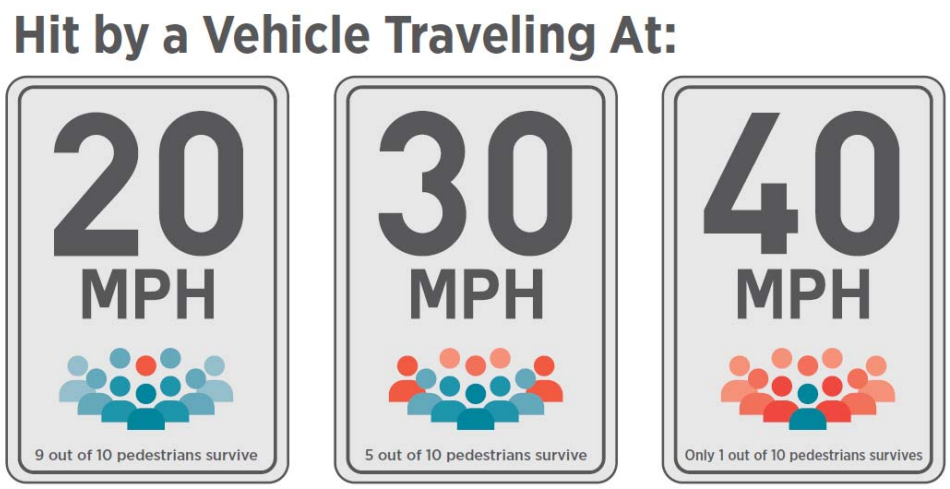
Initially, two overall alternatives were developed, the Base Build and Enhanced Build. Ultimately, the study recommended a hybrid alternative, the Implementation Plan, which combines elements of the Base Build and Enhanced Build. This chapter highlights the techniques applied to enhance the network in support of the vision to provide a safe, comfortable, and convenient system for all users. The approach in application has a foundation that recognizes: the context of the street section; who is to be accommodated by the modes offered; and the emphasis each mode or user has within the section.

2.1 Approach

Comprehensive development of the downtown transportation network for mobility and connectively requires applying the philosophy of Complete Streets. Placing safety at the forefront within the transportation network is of utmost importance and has significant influence on design. A high level of effort was focused on incorporating proven design techniques to encourage safe behavior by pedestrians, cyclists, and drivers when they are in their own space and wherever there is a point of potential conflict. As previously mentioned "a roadway safe for a pedestrian is safe for everyone." Elements within the alternatives that incorporate those applied techniques are outlined below.

2.1.1 Speed

One of the most important considerations in the design of a roadway is the selection of a design speed. The FHWA study, Pedestrian Facilities User Guide—Providing Safety and Mobility, links a pedestrian's chance of being fatally injured in a crash to the traveling speed of the motor vehicle striking the pedestrian. The graphic at the right shows that the likelihood of pedestrian fatality substantially increases with faster speeds. Understanding this relationship between vehicle speeds and pedestrian safety, it is important to consider the level of pedestrian activity in the selection of a roadway design speed and the elements of its typical section. In areas with high pedestrian activity, it may be necessary to reduce the roadway design speed and incorporate features to encourage slower speeds through traffic calming techniques, reduced lane widths, or signal coordination. The Florida Department of Transportation (FDOT) will soon release the Florida Design Manual and their Context Classification procedures which allow a 25-mph design speed on state roadways within Urban Context Classifications. In Naples, posted speed limits seem to be appropriate and historical data does not show speed to consistently contribute to crashes. For future design, using the posted speed limit for the design speed should help promote good driver behavior and enhance safety for all users.



Speed is especially lethal for vulnerable users like pedestrians and people biking. The risk of injury and death increases as speed increases.

2.1.2 Roadway Width

Historically, the number of lanes designed for a roadway has been decided by existing and forecasted vehicular demand; however, to achieve a balanced network, the benefits of providing wider travel ways for automobiles should be weighed against the adverse impacts to pedestrians along these roadways and the availability of public rights-of-way for other uses in the corridor. Wide roadways represent large barriers for pedestrians to cross, tend to increase speed beyond desired limits, and increase the exposure of pedestrians and cyclists to potential vehicular crashes. Of particular concern in the study area are the US 41 and Goodlette-Frank Road corridors. There are several strategies to consider in decreasing the roadway width: redistribution of traffic to appropriate parallel facilities rather than accommodating traffic on one facility, narrowing lane widths, reducing the number of lanes to the minimum needed (road diet) and incorporating raised medians to break up crossing by providing pedestrian refuges.

2.1.3 Sight Distance

The consideration of pedestrian sight distance and sight lines is another critical aspect of a safe roadway. Vertical roadway features, like trees, parked vehicles, and utility poles can obstruct both vehicular and pedestrian sight lines when they are too close to the potential conflict points between pedestrians, cyclists and drivers. Trees, on-street parking, and utility poles provide a buffer between pedestrian paths and motorized traffic; however, they should be placed safely outside of the sight lines. Incorporating safe design techniques to improve sight lines for all users, such as implementing no parking zones within 20 feet of a crossing and incorporating curb extensions to shadow on-street parking lanes, are extremely cost-effective considerations.

2.1.4 Curbs

Vertical curbs delineate the pedestrian and vehicular realms and discourage vehicles from leaving the roadway. Road sections with shoulders and ditches have advantages for water quality in stormwater management; however, the sidewalk is usually best placed on the back side of the ditch, requiring more right-of-way. When curb and gutter is introduced into a typical section, as is the general case in an urban area for modern facilities, the preferred design is often for a 6" vertical curb, FDOT Type F. This curb style guides drivers to stay within the motorized travel way or parking lane and away from the pedestrians. Mountable curb, FDOT Type E, does not discourage drivers from driving up on a sidewalk and obstructing the pedestrians' path.

Curbs can also be used in the separation between motorized lanes and bicycle facilities. These facilities are referred to separated bike lanes or "cycle tracks" when more than a buffered bike lane is desired to attract more riders.

2.1.5 Lighting

Lighting of public rights-of-way should consider the visibility needs of all users. Streetlights along roadways should illuminate the driver approach to sidewalks as well as the travel way to improve the conspicuity of pedestrians. This is particularly important when prioritizing implementation projects by placing higher emphasis for intersections or pedestrian crossings with frequent pedestrian activity. Appropriate lighting for pedestrians is also an incentive for this mode of travel as the pedestrian comfort and safety is greatly enhanced.

Uniformity of the lighting is another critical consideration in the design. The type and placement of luminaries should support a right-of-way that is uniformly lit for both travel lanes and sidewalks. According to the AASHTO Guide for Planning, Design, and Operation of Pedestrian Facilities, "two-thirds of pedestrian fatalities occur during low-light conditions… [and] among pedestrians 21 to 44 years old, 81 percent of fatalities occur during low-light conditions."

2.1.6 Buffer Widths

The width of buffers, the lateral separation between the sidewalk and moving traffic, is a major component in the perceived safety for pedestrians. Plantings in these buffers can increase the comfort of pedestrians and act as a barrier along the roadway that directs pedestrians to safe crossing locations.

2.1.7 Curb Radii

The selection of a curb radius should balance the needs of pedestrians and motorists. The curb radius should be selected to accommodate the turning of the largest design vehicle using the facility while also considering the needs of pedestrians along the corridor. It has become acceptable practice to design for larger vehicles to use all the lanes exiting the intersection and on low volume roads allow for encroachment into oncoming lanes. As it relates to pedestrian safety, larger curb radii have an adverse impact on pedestrian safety for a few reasons; larger curb radii increase the crossing distance for pedestrians through an intersection, increases the speeds of vehicles completing the turning maneuver, and potentially inhibit the line of sight between drivers and pedestrians by moving pedestrians further from the travel ways. These impacts all serve to increase the risk exposure to right turning vehicles for pedestrians crossing at intersections.

2.1.8 Midblock Crossings

Midblock crossings are supplemental locations to serve pedestrian crossing needs between intersections. Potential locations include areas where intersections are spaced relatively far apart or areas where significant pedestrian generators are located midblock with destinations on the opposite side of the street. Potential design strategies include medians or crossing islands, curb extensions, signs and pavement markings, signalization, and grade-separated crossings.

2.2 Pedestrian

There are techniques and strategies used by professionals to enhance the transportation network for pedestrians. Through the process of reviewing the network, a series of alternatives became recommendations for the study area, and the analysis of the effects of the proposed alternatives were analyzed.

2.2.1 Techniques/Strategies

Pedestrian facilities are addressed in two ways, along the road and crossing the road. When considering pedestrian facilities along the road, the goal is to provide sidewalks throughout the network making them smooth and continuous. Simply put, the sidewalks should be a minimum of five feet (5') wide, a maximum 2% cross slope, ramps at every crossing, and ADA compliant. The facility selected for each segment of roadway

considered both the level of traffic stress created by the volume and speed of automobile traffic adjacent to the pedestrian route, the width of separation between the sidewalk and the travel lane, and the land use context – residential, institutional, or commercial.

The second goal is to provide crossings at frequencies to support reasonable expectations of pedestrians. Often pedestrians choose to cross streets where it is convenient often at the expense of safety. Keeping this in mind, reviewing the network for pedestrian desire lines following land uses, transit access, and broader regional access leads to identifying the crossing locations followed with the appropriate level of crossing treatment. All intersections are crossings; it is a matter of deciding which ones to mark and, if marked, assessing the need to add signs, supplemental pavement markings, beacons, or signals.

Buffering pedestrians from traffic is not always necessary; however, with the study area's grid network and mix of land uses, every roadway was to end up with at least a sidewalk, or other appropriate facility, on both sides of the street. Some streets that function like alleys would not share this requirement.

- Generally, sidewalks that are five feet (5') were designated along residential frontage, eight feet (8') along institutional and commercial land uses, and a minimum of ten feet (10') where the route is expected to accommodate bicycles along with the pedestrians.
- A minimum of two feet (2') from the back of curb was provided to buffer the pedestrian from motorized traffic, typically referred to as the furniture zone. This area is sometimes referred to as the planting strip or utility strip.
- Street trees (where the width is sufficient) and lighting would be incorporated in the furniture zone. Vertical features increase the sense of being buffered from traffic and provide shade - both of which enhance the comfort of the walk.
- On-street parking also provides buffering from traffic. On-street parking increases the comfort of the walk and lowers the level of traffic stress for pedestrians. On-street parking is also a traffic calming measure.

Accessibility at every driveway and street crossing is necessary to achieve full mobility and connectivity. Ramps provide continuity of service for wheelchairs, strollers, and occasional cyclists alike.

Driveway design influences the pedestrian environment. Maintaining the sidewalk at the same level and then sloping the ramp from the street to the edge of the sidewalk is ideal. When this cannot be achieved, there are alternative designs that can be considered that still support pedestrian access. It is important to avoid creating a block of driveways that result in a roller coaster effect of up and down movement. Driveway consolidation can help with this as well. These techniques can be incorporated into Land Development Codes as requirements for redevelopment.

The design at the back of sidewalk is also important. Landscaping should be maintained so as not to restrict the pedestrian path or impair visual effectiveness or sight distance. Fences, walls, and building faces should be offset one foot from the edge of the pedestrian path. Most of the typical sections presented set the back of sidewalk at the edge of the right-of-way line. Land use codes and guidance will dictate the treatment at the back of sidewalk. Private property should connect to the public sidewalk to enhance access and support walking as a mode choice.

Crossing treatments vary based on the street the route crosses and the traffic control at the intersection.

- Unmarked crossings are at every intersection unless otherwise restricted through signing. If it is not appropriate to mark the crossing, the crossing should still be evaluated for safety. Is it smooth? Are ramps provided? Is it lit? Is a place of refuge provided if the crossing distance is more than four lanes?
- Crosswalks are typically marked with longitudinal lines for side streets controlled with stop signs and additional high visibility markings for the main street.
- Signs are used to draw attention to a crosswalk if it is not at a stop controlled approach or is not at a signalized intersection.
- Rectangular Rapid Flashing Beacons (RRFB) can be added to crossings to draw attention of drivers when pedestrians are present.
- Pedestrian Hybrid Beacons (PHB) (sometimes referred to as a HAWK – High-Intensity Activated crossWalK beacon) are a higher level of communication to drivers that a pedestrian is present by using a series of flashing yellow, steady yellow, and steady red signals in combination with a walk and don't walk sequence for pedestrians.
- Traffic Signals are the highest level of control for pedestrian crossings. Providing signal timings with short cycle lengths increases the probably of pedestrians following the "walk"/"don't walk" signals by minimizing their wait. Leading pedestrian intervals, left turn protected phasing with flashing yellow arrows, and right-turn-on-red restrictions are additional strategies that can be used to enhance the safety of signalized intersections.

2.2.2 Alternatives

Two final network alternatives were developed and formed the Base Build and Enhanced Build pedestrian systems. Both alternatives identify key locations for improvements to connect the community, close the gaps in the existing system, and correct ADA deficiencies. Figures 2 and 3 present the two network alternatives, respectively. The differences from the Base Build to the Enhanced Build include wider sidewalks on 5th Avenue S/US 41 and 9th Street/US 41, and added facilities to 5th Avenue N.

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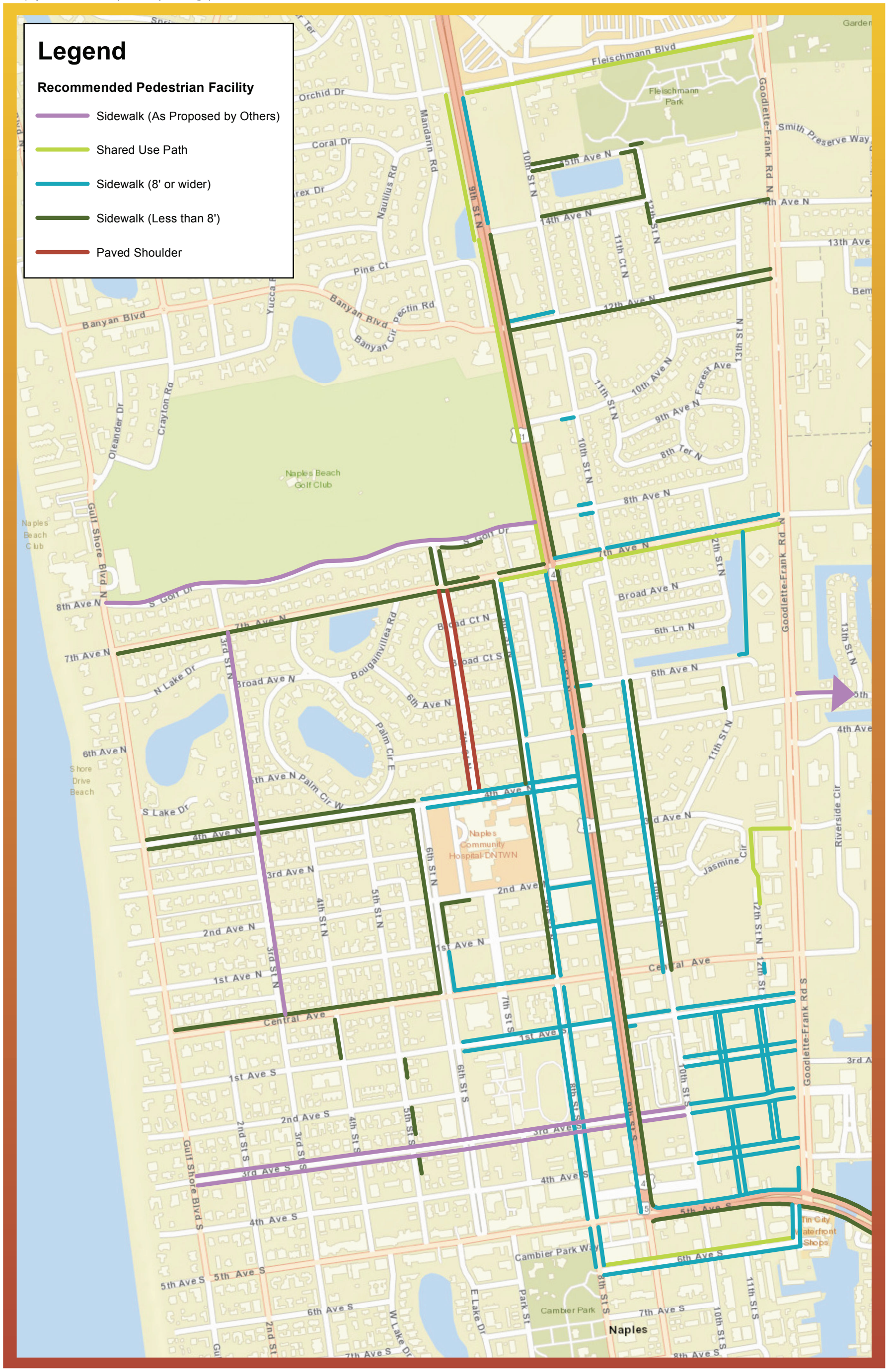

Figure 2

Base Build Pedestrian Facilities
Downtown Naples
Mobility & Connectivity Study

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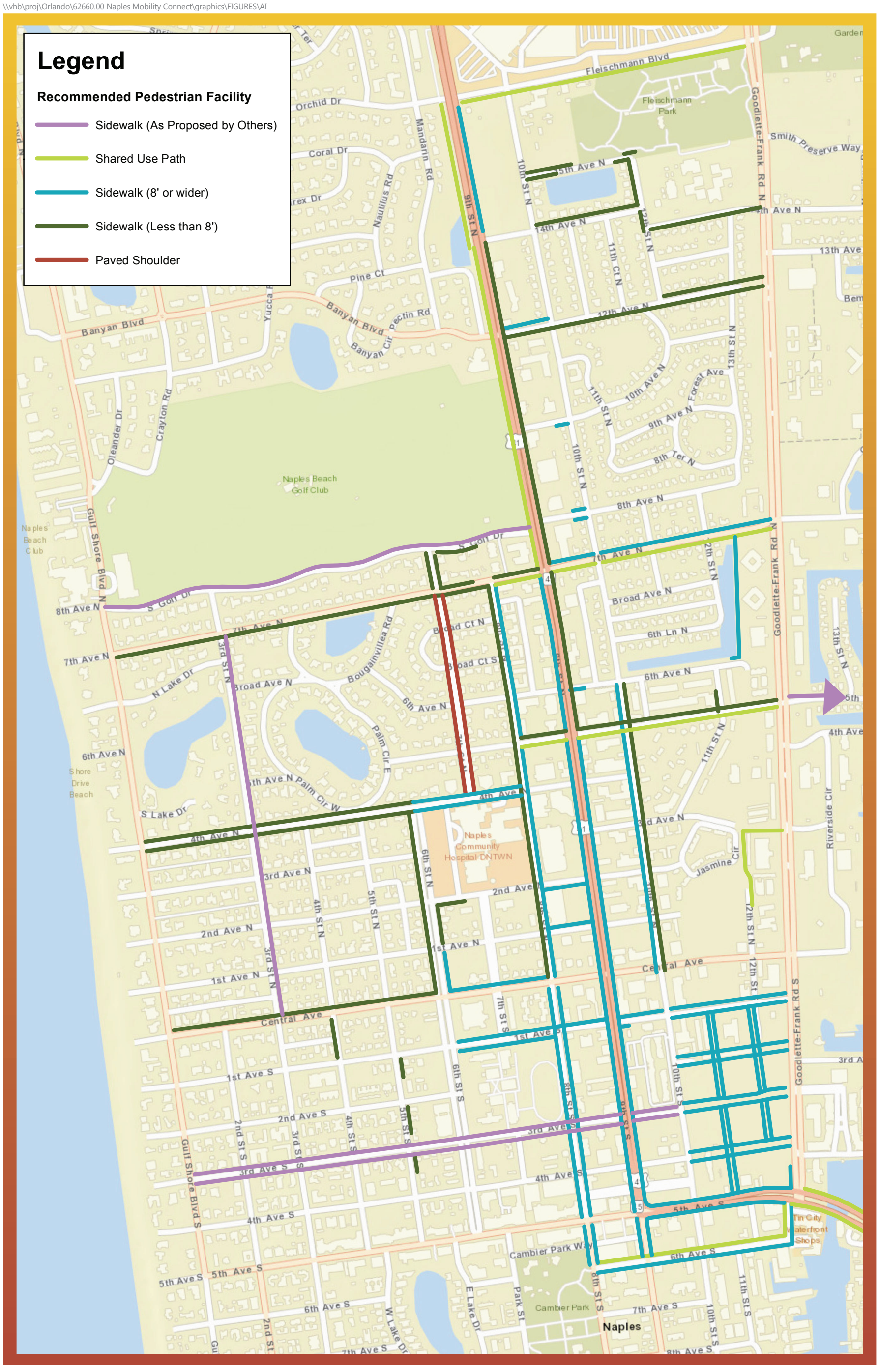


Figure 3

Enhanced Build Pedestrian Facilities
Downtown Naples
Mobility & Connectivity Study

2.2.3 Evaluation

The Pedestrian Level of Service (PLOS) segment scores used in this evaluation, rate the quality of pedestrian facility along the segments of roadway and not at each intersection. For this study, it is assumed that the intersections will address the pedestrian service similarly between the Base Build and the Enhanced Build alternatives; therefore, service at the intersections was not included in the comparative evaluation. The PLOS calculation includes volume and speed of traffic in the adjacent lanes, the width of sidewalk or path, the amount of separation and if it is buffered by on-street parking, landscaping, or other vertical elements. The PLOS score is based on a formula that accounts for the previously mentioned factors. Lower scores are associated with better conditions. The scores are stratified into varying letter grades, A-F, with LOS A representing the highest level of service with the lowest level of traffic stress and LOS F representing the lowest level of service with the highest level of traffic stress. Table 1 presents the PLOS for each alternative. The results demonstrate that the Enhanced Build alternative represents the best level of service for pedestrians. In the Implementation Plan, the replacement of the cycle track with a buffered bike lane on 8th Street North, actually slightly improves the PLOS because it provides lateral separation (via the buffered bike lanes) for pedestrians on both sides of the roadway, rather than just one (as was the case with the cycle track). More details related to the PLOS calculations can be found in Appendix A.

Table 1: Pedestrian Level of Service Results

	Pedestrian LOS Score	Pedestrian LOS
Existing	2.05	B
No Build Estimate	2.21	B
Base Build	1.73	A
Enhanced Build	1.63	A
Implementation Plan	1.60	A

2.3 Bicycle

2.3.1 Techniques/Strategies

Selecting appropriate bicycle facilities can be complicated due to the array of cyclist types. The exhibit on the next page presents the four basic types of cyclists: from those who would not feel safe riding near traffic at all to the cyclist who rides in the lane along with 35 mph traffic.

These rider types correlate to the level of traffic stress each one is willing to accept. The Base Build alternative facilities aim to attract Interested but Concerned and the Enthused and Confident. The Not Interested rider is anticipated to be found on the sidewalk, in a separated bike facility that has some sort of barrier from the motorized traffic, on a shared use path that is off road, or in their car.

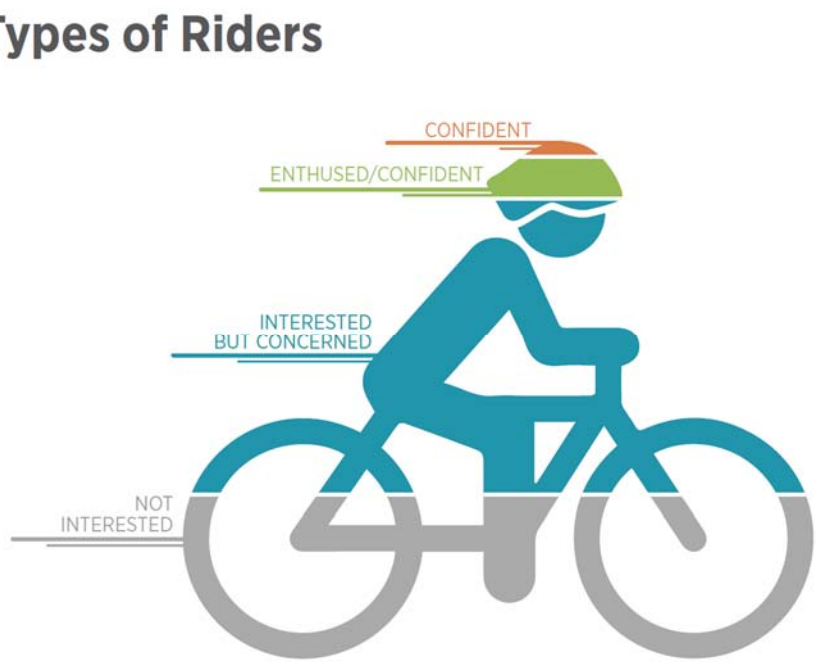
The Enhanced Build alternative provides more facilities that are expected to capture a portion of the "Not Interested" rider. The network provides north-south and east-west separated facilities in combination with wide sidewalks and shared use paths.

The Implementation Plan combines the two build alternatives by revising the Enhanced Build to include buffered bike lanes instead of the cycle tracks. Through the process, and although the cycle track is considered a high-quality on-road facility, concern for cyclists unfamiliar with riding on the contraflow side of the street was not a condition the ADRT and some City officials felt was an appropriate application for the community.

2.3.1.1 Levels of Traffic Stress

Bicycle facilities are selected based on the level of traffic stress the cyclist would feel in the built environment combined with the travel speed in motorized lanes, adjacent on-street parking, and constraints such as limits of the available right-of-way. Levels of traffic stress are described below.

- Very Low Stress – The cyclist only occasionally must be concerned about motorized traffic since these facilities have infrequent crossings and include low-volume, low-speed streets. These are neighborhood roads, cycle tracks/separated bike lanes, shared use paths, and trails.
- Low Stress – These facilities accommodate most of the riding population through a network of low-volume low-speed streets and buffered bike lanes.
- Moderate Stress – Significantly fewer cyclists will use these facilities. It is estimated that 10% of cyclists are anticipated to use roadways with sharrows or bike lanes. This is the reason the buffered bike lane became the standard for many jurisdictions.
- High Stress – It is estimated that 1% of the population will ride in high stress traffic. This level of stress includes using the full lane with high-volume traffic and cycling in >40 mph roads.



2.3.1.2 Facility Types

The designated facilities considered for completing the network include in the order of least separation to most separation include: shared roadways, sharrows, buffered bike lanes, two-way separated bikeways or cycle tracks, and shared use paths.

- Shared Roadways – With low-volume at low-speed cyclists are expected to use the full lane.
- Sharrow – A shared-lane arrow (sharrow) marking is used on roadways with moderate traffic volume to remind drivers to anticipate cyclists in the roadway and to guide cyclists where to ride within the lane.
- Standard Bike Lane – A standard bike lane is a minimum of four feet (4′) wide of consistent pavement surface.
- Buffered Bike Lane – A buffered bike lane is typically seven feet (7′) wide providing four feet of riding area plus three feet of buffer from the motorized lane.
- Buffered Bike Lane Adjacent to On-street Parking – This lane is typically eight feet (8′) wide providing three feet (3′) of buffer from on-street parking, so that the cyclist is outside of the door swing and has five feet (5′) of riding area as added comfort next to the motorized lane.
- Two-way Separated Bike Lane / "Cycle Track" – A cycle track is typically ten feet (10′) wide with a separator usually four feet (4′) wide. The separator is a back to back curb island that sometimes supports planters, tubular markers, or another vertical separator.
- Shared Use Path (SUP) – A shared use path is a minimum of ten feet (10′) wide with at least four feet (4′) separation from the back of curb.

Each of the roadways within the study area was reviewed for the volume and probability of speed. The low-volume, low-speed roadways were screened as shared roadway conditions for cyclists without any recommendations for change. The remaining roads were evaluated for how cyclists would be accommodated within the consideration of traffic stress and the land use context within the typical section.

The modal emphasis becomes one of the primary discussions for deciding on the bicycle network. Two examples where this significantly influenced the final recommendations are 9th Street/US 41 and the Gordon River Bridge. In the Enhanced Build alternative, on-street parking is a valuable component of the proposed section for 9th Street/US 41. It provides convenient access for the businesses along the corridor; however, due to right-of-way constraints, there is not enough space to provide a designated facility for cyclists along with the on-street parking. To provide a north-south designated facility for cyclists, the 8th Street corridor was selected as the most appropriate alternate/parallel route.

Across the Gordon River Bridge, there is adequate room to restripe the bridge with a buffered bike lane and narrower motorized travel lanes while retaining the sidewalk as it currently exists. Cyclists would be expected to ride in the same direction of traffic and if someone was riding against traffic, there would not be enough room for the cyclists to pass each other safely with a car in the adjacent lane. This is the concept in the Base Build Alternative. The Enhanced Build alternative relocates the barrier and creates a shared use path on both sides of the bridge, combining the

bike lane and the sidewalk into a singular facility. This alternative would attract more cyclists with the separation created by the vertical barrier while providing more flexibility for bi-directional movement, which is expected along this network segment.

2.3.2 Alternatives

Two bicycle network alternatives were developed and reflect the Base Build and Enhanced Build bicycle systems. Both alternatives provide a network of facilities that connect across the study area. Figures 4 and 5 present the two alternatives, respectively. The differences from the Base Build to the Enhanced Build include facilities with more separation and buffering from motorized traffic, with a goal to attract a broader range of cyclists and address the growing demand for this mode by residents and visitors alike. The Enhanced Build includes shared use paths on the Gordon River Bridge. Additionally, the 8th Street and 4th Avenue N bike lanes are changed to two-way separated bike lanes, i.e. a cycle track; and to complete the network a shared use path is added to 5th Avenue N. This network provides continuous separated facilities throughout the study area and out to the beaches.

The Implementation Plan blends the two build alternatives, where the proposed cycle track in the Enhanced Build is replaced with buffered bike lanes, consistent with the recommendation from the ADRT and some City staff. The consideration of the "cycle track" should be reevaluated when this facility type is more widely acknowledged by users in the region.

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Figure 4

Base Build Bicycle Facilities
Downtown Naples
Mobility & Connectivity Study

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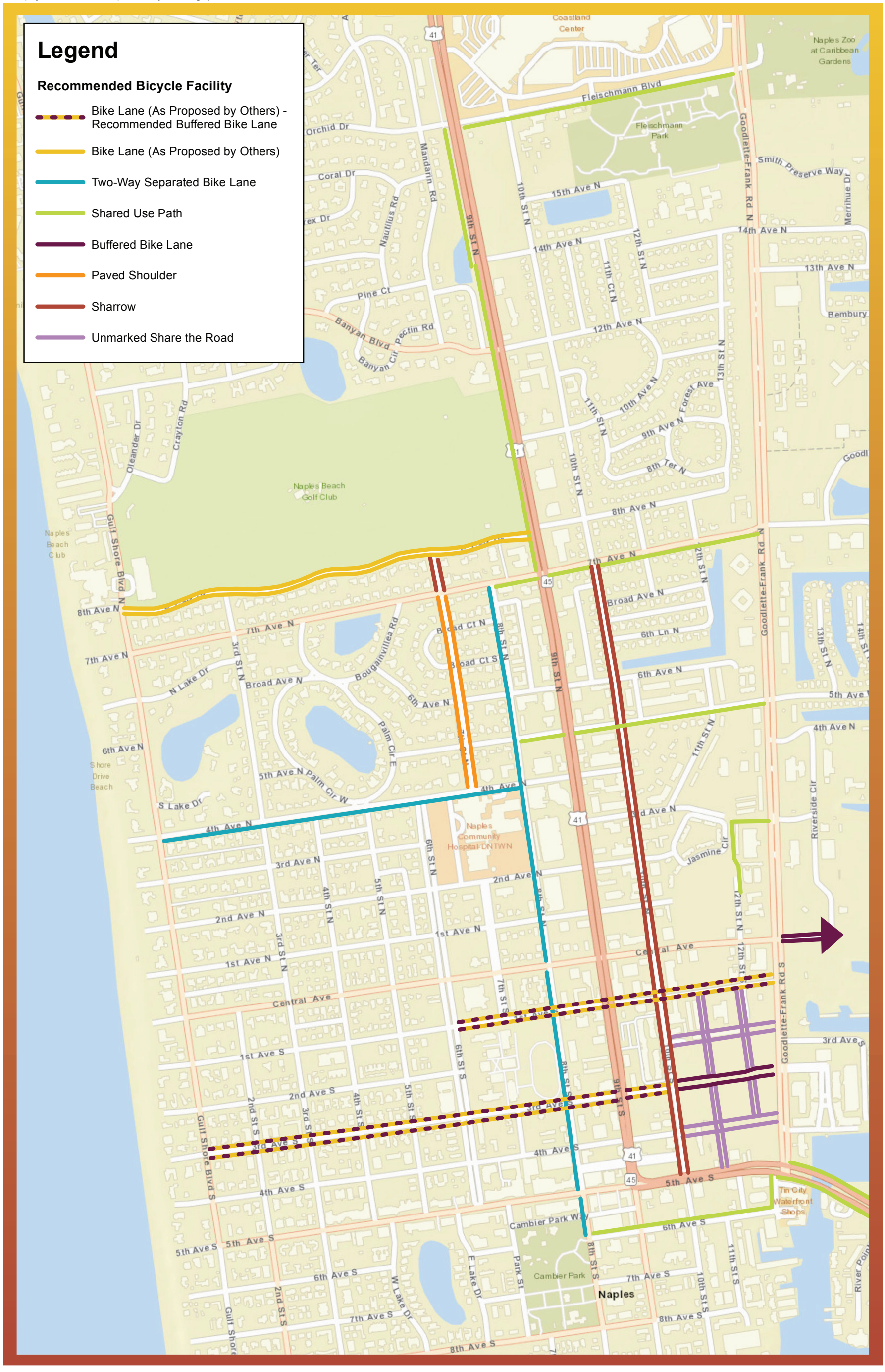

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CITY OF NAPLES, FLORIDA
ON THE GULF

Figure 5

Enhanced Build Bicycle Facilities
Downtown Naples
Mobility & Connectivity Study

2.3.3 Evaluation

The Bicycle Level of Service (BLOS) segment score used in this evaluation rates the quality of facility along the segments of roadway and not at each intersection. The BLOS calculation includes volume and speed of traffic in the shared or adjacent lanes, and the width of the facility, among others. On-street parking has a negative effect on BLOS due to the door swing. The Bicycle LOS is score is based on a formula that accounts for the previously mentioned factors. Lower scores are associated with better conditions. The scores are stratified into varying letter grades, A-F, with LOS A representing the highest level of service and LOS F representing the lowest level of service. Table 2 presents the BLOS for each alternative. Notable in this table are a couple of key points. First, the Enhanced Build alternative represents the best level of service for bicyclists. Second, volumes and speeds have a strong impact on the outputs of bicycle level of service. As such, comparing the future conditions to the existing conditions shows that higher volumes on the study area roadways alone will lower the bicycle LOS score in the future. Even for the Base Build condition, the implementation of various bicycle projects does not fully counteract the effects of growing traffic volumes on the study area roadways. The enhancements incorporated with the Base Build are just enough to counteract the growing traffic volumes in the study area. Although replacement of the cycle tracks with buffered bike lanes or a shared use path in the Implementation Plan slightly improved PLOS, it had a negative effect on BLOS. The cycle tracks provide separation from motorized vehicle lanes and on-street parking. Therefore, the Enhanced Build shows a higher level of service than the Implementation Plan. More detailed BLOS calculations can be found in Appendix A.

Table 2: Bicycle Level of Service Results

	Bicycle LOS Score	Bicycle LOS
Existing	4.07	D
No Build Estimate	4.20	D
Base Build	3.15	C
Enhanced Build	2.63	B
Implementation Plan	3.03	C

2.4 Automobile

2.4.1 Techniques/Strategies

Although a great deal of focus was placed on enhancing the pedestrian and bicycle network, a truly balanced, multimodal transportation system must also serve vehicular traffic with equal emphasis. Fortunately, Naples has a strong roadway network grid system to serve land use access and

mobility needs of motorists travelling within the study area. The grid allows for traffic to dissipate throughout the network versus being funneled to only a few routes and intersections. 9th Street/US 41 and Goodlette-Frank Road provide the primary north-south routes while 5th Avenue S, Central Avenue, and Fleischmann Boulevard provide east-west connectivity. 8th Street also serves as a continuous north-south route through the "downtown" portions of the study area. Each of these "primary" routes are supported by a series of local roads that serve the short and "internal" city trips effectively.

Providing capacity and managing traffic operations to maximize the efficiency of the network is key in serving the automobile mode. This study leads with enhancing the pedestrian and bicycle network mobility and connectivity while continuing to provide adequate levels of service and system reliability to drivers. Some techniques that were implemented to improve operations in the network or enhance conditions for other modes with limited impact to the automobile level of service are listed below.

A separate report was previously prepared presenting the details of the analyses of traffic operations associated with the Build and Enhanced Alternatives. That report documents the process and recommendations much more thoroughly than provided here and it is available for reference from the City.

Modification to Existing Access/Turn Restrictions -

Currently, a number of turn restrictions are in place along the 5th Avenue S/US 41 corridor east of 9th Street S/US 41 (both FDOT highway segments). These restrictions contribute to traffic congestion by concentrating demand at a limited number of locations. Specifically, the westbound left turn restrictions at the Four Corners intersection and at the intersection of 5th Avenue S/US 41 & Goodlette-Frank Rd/ 12th Street S funnel demand for the westbound left turns to the intersection of 5th Avenue S/US 41 & 10th Street S. Currently, the only westbound access to Old Naples on this segment of 5th Avenue S/US 41 is at the intersection of 5th Avenue S/ US 41 & 10th Street S. As a result, a long traffic queue occurs in the left-turn lane, which extends past the storage bay, impacts westbound operations along this corridor. Additionally, the long green times required to serve the high volume of westbound left turns negatively impact the eastbound operations along the corridor. By removing the turning restrictions at the Four Corners and 5th Avenue S/US 41 & Goodlette-Frank Rd/12th Street S intersections, the westbound left turns are distributed to multiple locations in the corridor, thus dissipating the impacts to both eastbound and westbound operations.

In recommending two-way operations on 12th Street S, south of 5th Avenue S/US 41, this same principle was applied to the complementary movement, the northbound right. Currently, for those coming from Old Naples destined for locations along US 41 east of the Gordon River, the only way to access the corridor is to make a northbound right at the Four Corners intersection or at 10th Street S. By opening 12th Street S to two-way operations and allowing a northbound right at the 5th Avenue S/US 41 & Goodlette-Frank Rd/12th Street S intersection, the other intersections along the 5th Avenue S/US 41 corridor are relieved of some demand.

Optimized Lane Configuration -

Upon the examination of operations on an intersection by intersection basis, several refinements to intersection geometries were identified to make the best possible use of existing lanes. One such location was at the 5th Avenue S/US 41 & Goodlette-Frank Rd/12th Street S intersection. At this intersection, the eastbound left turn is served by a single lane and the eastbound through movement is served by four lanes. Currently, demand for the left turn movement is high enough that queueing for this movement extends out of the storage bay and impacts eastbound operations. By reassigning the leftmost through lanes as a second left turn lane, the queueing no longer impacts eastbound operations and the amount of green time dedicated to the eastbound left turn is shortened, thus improving southbound and westbound operations as well.

Modify Traffic Signal Phasing and Timing -

Inefficiencies in signal timings, while easily resolved, can have substantial impacts to traffic operations. As such, optimization of signal timings often represents the most cost-effective strategy for improving operations. For each alternative, signal timings, phasing, splits, offsets, and cycle lengths, for all study area intersections were optimized and further refined in the validated traffic operations model.

Lane Elimination -

A strong goal of the City is to extend the success and economic vibrancy of the 5th Avenue S commercial district to the 9th Street/US 41 corridor in Downtown Naples. One of the key elements for a thriving commercial corridor located in a city's downtown is a focus on walkability and livability. In support of this goal for 9th Street/US 41, design elements included the incorporation of an improved pedestrian realm and on-street parking. Given the existing right-of-way constraints in the corridor, a "road diet", a reduction in the number of lanes from six to four, would be necessary on this facility to incorporate these elements. Examination of existing, historic traffic, and future peak hour peak-season volumes along 9th Street/US 41 and Goodlette-Frank Road revealed that an opportunity existed to successfully implement this strategy. As such, this concept was recommended as part of the Enhanced Build alternative. In the place of the eliminated travel lanes, this design incorporates on-street parking on both sides of the roadway as well as 10' foot sidewalks with planting strips. The additional space could also be used to accommodate additional street elements like bus bays, shade trees, and bioswales, among others. The enhanced pedestrian realm and additional on-street parking are anticipated to support businesses and redevelopment opportunities in this area while having a limited impact on vehicular operations.

2.4.2 Alternatives

The techniques/strategies highlighted above were applied to the roadway network in the Base Build and Enhanced Build alternatives. In both alternatives, turn restrictions were removed from the 5th Avenue S/US 41 corridor and two-way operation was restored on 12th Street S. The major roadway difference between the alternatives is the lane elimination on 9th Street/US 41 and 5th Avenue S/US 41 from Goodlette-Frank Road to 7th Avenue N, which is recommended in the Enhanced Build.

The Enhanced Build included an evaluation of a potential roundabout option at the Four Corners intersection to replace the conventional signalized intersection. Evaluation of forecasted 2040 traffic operations at the Four Corners intersection indicated that the roundabout alternative would not confidently serve the demand. The heavy southbound to eastbound movement volume restricts the entry into the roundabout for the eastbound and northbound movements. Traffic queuing back toward the Four Corners intersection from the 5th Avenue S/US 41 & 10th Street intersection was also found to have some potential to conflict with volume in the roundabout. While this could be controlled with proper detection equipment and signal operations at 10th Street, it was determined that the roundabout was not the best recommendation at this time. The roundabout alternative may however be appropriate for reconsideration in the future as travel patterns, mode choices, and technology in autonomous vehicles advances.

The proposed roadway network improvements for the Base Build and Enhanced Build are mapped in Figures 6 and 7, respectively.

In the evaluation of future year roadway networks, some improvements at intersections outside of the core study area were modeled to maintain acceptable conveyance of vehicles into and out of the core study area. In Year 2040, the traffic demand at the intersections of Golden Gate Parkway & US 41 and Golden Gate Parkway & Goodlette-Frank Road is anticipated to exceed capacity. Without improvement, these intersections will function as "valves", regulating the flow of traffic into and out of Downtown Naples. Detailed analyses on alternatives is provided in separate documentation that was transmitted to Collier County for their consideration.

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Figure 6

Base Build Roadway Network Improvements
Downtown Naples
Mobility & Connectivity Study

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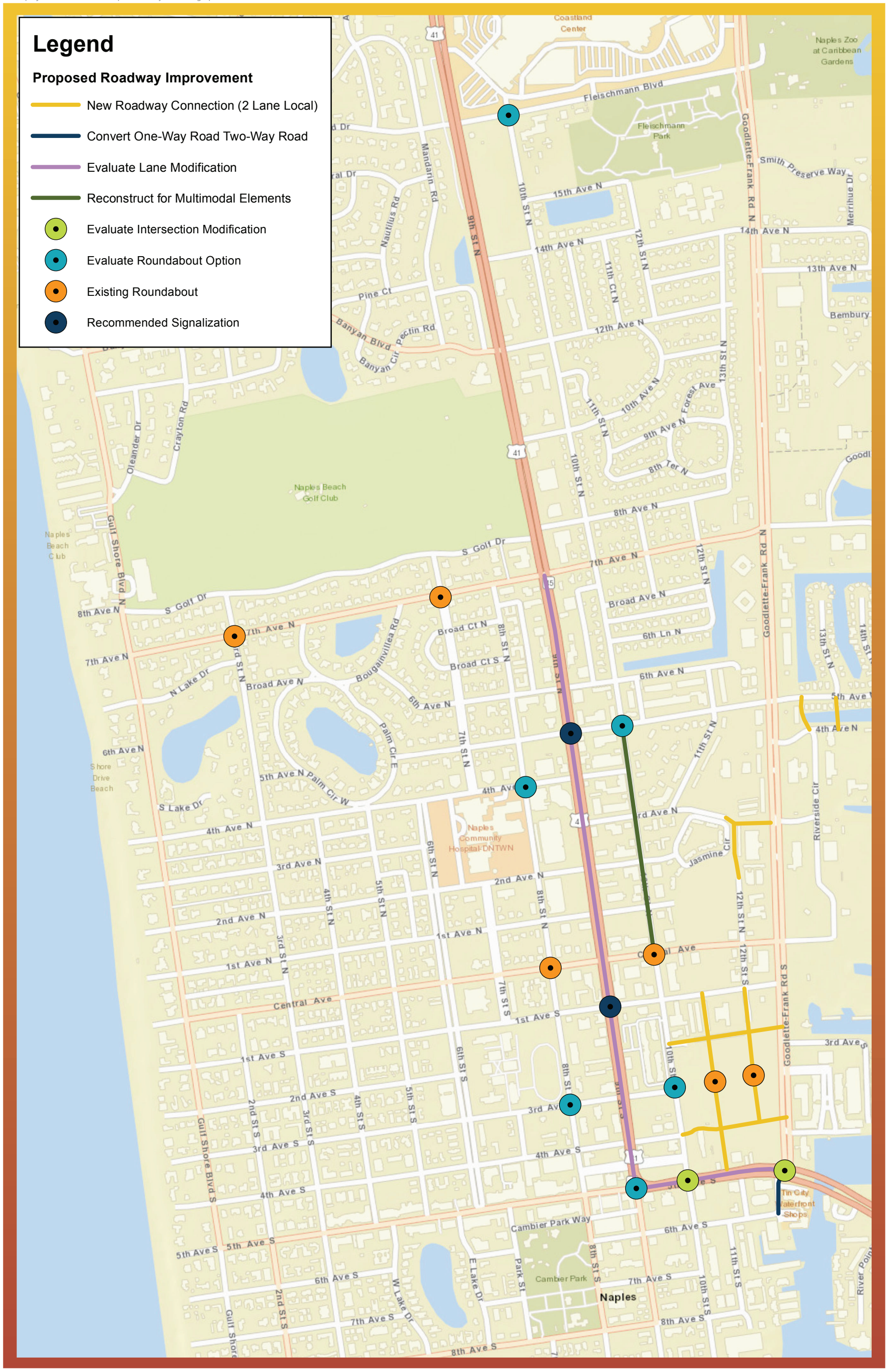

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Figure 7

Enhanced Build Roadway Network Improvements
Downtown Naples
Mobility & Connectivity Study

2.4.3 Results

In evaluating the performance of traffic operations in the study area, several macro-level network and corridor performance measures were consulted: the average network travel time per vehicle, the average network delay per vehicle, the average number of stops per vehicle, the average network speed, and the average travel times on US 41 and Goodlette-Frank Road for the full extent of the study area. Table 3 presents these results for each alternative in the PM peak hour of forecasted Year 2040. The results indicate that the growth in traffic volumes, when metered by the proposed lane reduction on 9th Street/US 41, will result in operations that are only slightly worse than existing conditions. The results of the analysis also show that as it relates to each metric, the Enhanced Build, with the associated road diet, produces traffic operations that closely meet or exceed those of the Base Build condition.

Table 3: Automobile Measures of Effectiveness

Analysis Scenario	Average Network Travel Time (min:sec)	Average Network Delay (min:sec)	Average # of Stops (each)	Average Network Speed (mph)	Travel Time (min:sec) 9th St/US 41 5th Ave S/US 41 to Golden Gate Pkwy		Travel Time (min:sec) Goodlette-Frank Rd 5th Ave S/US 41 to Golden Gate Pkwy	
					NB	SB	NB	SB
Existing 2017	5:21	2:42	2.57	17.18	5:15	5:34	5:30	6:23
No Build 2040	5:32	3:06	2.74	15.31	7:34	7:54	6:04	9:07
Base Build 2040	5:39	3:01	2.73	16.17	7:34	7:57	5:40	6:55
Enhanced Build 2040	5:28	2:48	2.80	16.85	6:34	6:48	5:00	7:21

Four Corners serves as a pivotal intersection in the network and received focused attention. In evaluating the options in traffic control for the intersection, the following results were determined as presented in Table 4. The reintroduction of the westbound left turn, while improving corridor access and operations at the intersection of 5th Avenue S/US 41 & 10th Street S, increases the average delay at the Four Corners intersection from the No Build to the Base Build scenarios. In the Enhanced Build, the study team tested signalized and roundabout alternatives at Four Corners. The intersection benefits dramatically from the introduction of the Enhanced Build network as the lane reduction on US 41 and improvements to the 5th Avenue S/US 41 & Goodlette-Frank Road intersection divert vehicular traffic away from the Four Corners intersection. Most noticeably, the number of southbound left turns at the intersection are significantly reduced since they are served elsewhere in the network. In the evaluation of the intersection under traffic signal control, the introduction of reduced cycle lengths and more efficient signal phasing, not only enhance conditions for pedestrian crossings, but also reduces the average delay experienced by motorists to LOS C conditions. The evaluation of the roundabout did not result in satisfactory operations under forecasted future conditions.

Analysis of the roundabout indicated the forecasted volumes would experience higher levels of delay and conflicts for certain movements to enter the roundabout due to limited gaps associated with the dominance of the southbound left over the eastbound and northbound movements. Combined with the additional right-of-way required to implement the roundabout, it was recommended that the Four Corners intersection remain signalized until future conditions can be reevaluated. More detailed information regarding the evaluation of traffic operations at the Four Corners intersection can be found in Appendix B.

Table 4: Four Corners Intersection Control Options

Analysis Scenario	Average Intersection Delay (seconds)	Level of Service
Existing 2017 – Traffic Signal	31.2	C
No Build 2040 – Traffic Signal	45.1	D
Base Build 2040 – Traffic Signal	60.3	E
Enhanced Build 2040 – Traffic Signal	29.5	C
Enhanced Build 2040 - Roundabout *	88.2	F

** Evaluated as an isolated intersection in SIDRA*

2.5 Transit

2.5.1 Techniques/Strategies

This study focuses on the access to bus stops for pedestrians and cyclists, often referred to as the first mile/last mile, and the quality of the stops. It does not address the transit service as a component of this study, which is the Transit Capacity and Quality of Service Manual (TCQSM) basis for measuring the quality/level of service of transit.

The pedestrian and bicycle sections of this study address the access to the bus stops. Bus stop location and the quality of the stop are elements of the transportation system incorporated into the development of the multimodal network.

Bus Stop placement includes three components:

1. proximity to origins and destinations;
2. location relative to the intersection (near-side or far-side); and
3. presence of sidewalks and crossings.

The evaluation of the transit component brings in the following:

Land Use – A quarter of a mile can be walked in about five (5) minutes. For the study area, identifying the larger institutional and commercial uses and confirming that bus stops are within a five-minute walk, including the "going home side," bus stops could be placed about half a mile apart.

Near-side – The advantage of using near-side locations is the ability of the bus to load and unload passengers concurrent with a red light. However, use of a near-side bus stop may block the outside lane during a green signal if not timed properly or may create conflicts with right turn lanes when present. Stopped buses obstruct the sight distances for pedestrians looking left and pedestrians cross in front of the bus.

Far-side – The advantage of using far-side bus stops is the ability of the upstream signal to create gaps that allow buses to reenter the traffic flow. This is particularly important when considering the implementation of bus bays. A disadvantage of far-side bus stops is the potential for increased rear-end collisions caused by the deceleration of buses through an intersection. Although far-side bus stops present sight-distance challenges for pedestrians looking to the right, they have the advantage of encouraging pedestrians to cross the street behind the bus rather than in front of it.

Bus Bays – Bus bays provide an area of buses to pull out of the travel way; thus, not interrupting traffic flow when they stop to serve riders. One of the drawbacks to pulling out of traffic is that some drivers are not willing to let the bus back into traffic.

Amenities – Benches, shelters, lighting, bike racks, and trash cans are elements which enhance the waiting experience for transit riders. Modern facilities include real-time information on schedules and bus arrival.

2.5.2 Recommendations

Along 9th Street/US 41, it is recommended that far-side stops be used in conjunction with bus bays and for these stops to remain located near, or be relocated to areas near, transit-supportive land uses. Another opportunity for expanding transit use in the study area is providing more seamless intermodal connections. One such strategy would be co-locating bike share stations and transit stops to expand the potential travel shed of transit riders.

Additional recommendations for transit stops in the study area relate to station amenities. As the main corridor in the study area, enhanced bus stops could be provided along 9th Street/US 41. Amenities such as benches, shelters, enhanced lighting, bike racks, and trash cans, and should be evaluated for addition at each of the stops. Also, given the number of seasonal visitors to Naples and the higher average age in the City, many transit riders in the study area may not have access to the system's real-time transit information. One potential solution is to provide changeable message signs with up-to-date travel time information at each of the premium stops along 9th Street/US 41.

2.6 Multimodal Summary

2.6.1 Synergy of Transportation Modes/Land Use

Each of the alternative concepts for each corridor were developed in a holistic manner, with a consideration given to how plans for one mode of transportation impacts the others. For instance, the incorporation of on-street parking has a negative impact on the safety and comfort of cyclists. This is due to the increased chance of door swing conflicts. Conversely, the presence of on-street parking enhances safety and comfortability for pedestrians because the parked vehicles act as a physical barrier between pedestrians and motorized vehicles.

The development of the alternative concepts also considered adjacent land uses and how the transportation system could best support these land uses. Where possible, given right-of-way constraints and needs of other modes, wider sidewalks and on-street parking was provided near commercial land uses to enhance the vibrancy and economic well-being of the community's businesses.

Ultimately, considering these factors, among others, typical sections were developed for the Base Build and Enhanced Build on major study area corridors. These typical sections, which are constrained to current right-of-way, aim to balance the sometimes-competing needs of transportation modes and adjacent land uses. The map to the right numerically identifies the location of each of the typical sections within the study area. The pages that follow contain the typical sections developed for both the Base Build and Enhanced Build alternatives, Figures 8-22.

Using these typical sections as a guide, concept plans were also developed for 9th Street S/US 41, 5th Avenue S/US 41, and 10th Street N for the Base Build and Enhanced Build (signalized and with a roundabout) alternatives. Those plans are presented in Figures 23-28. Of note in Figures 24 and 27, a marked pedestrian crossing has not been provided along the eastern side of the 5th Avenue S/US 41 & Goodlette-Frank Road intersection. This was done for two reasons: there is a high volume of southbound left turns that would conflict with this crossing and there is an existing pedestrian undercrossing less than 200 feet east of this intersection that provides a safer alternative. Wayfinding signs should direct pedestrians wishing to cross along the eastern edge of this intersection to the pedestrian undercrossing.

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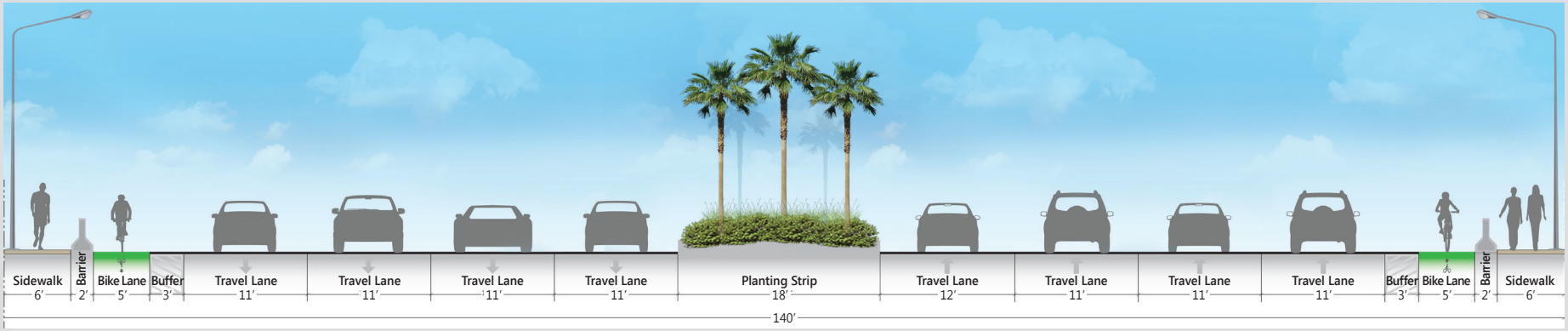
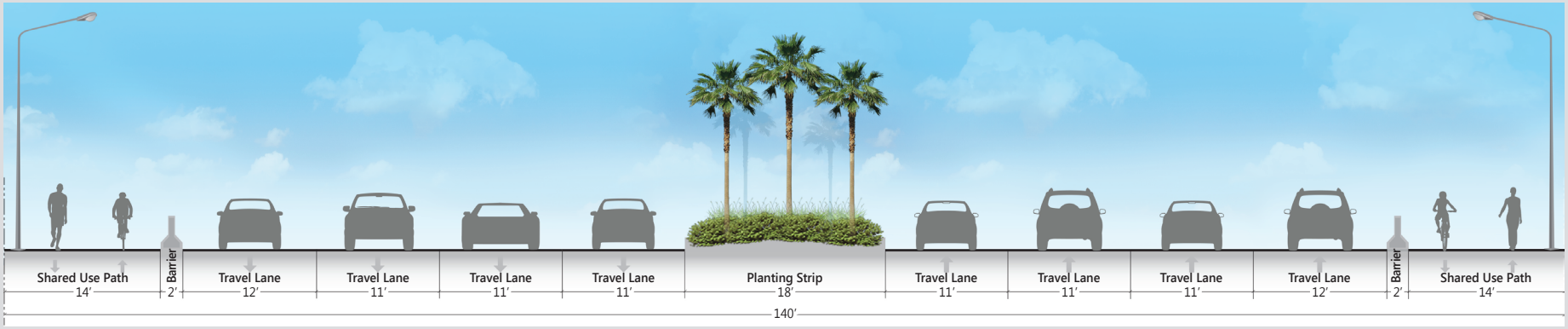


Base Build



Enhanced Build

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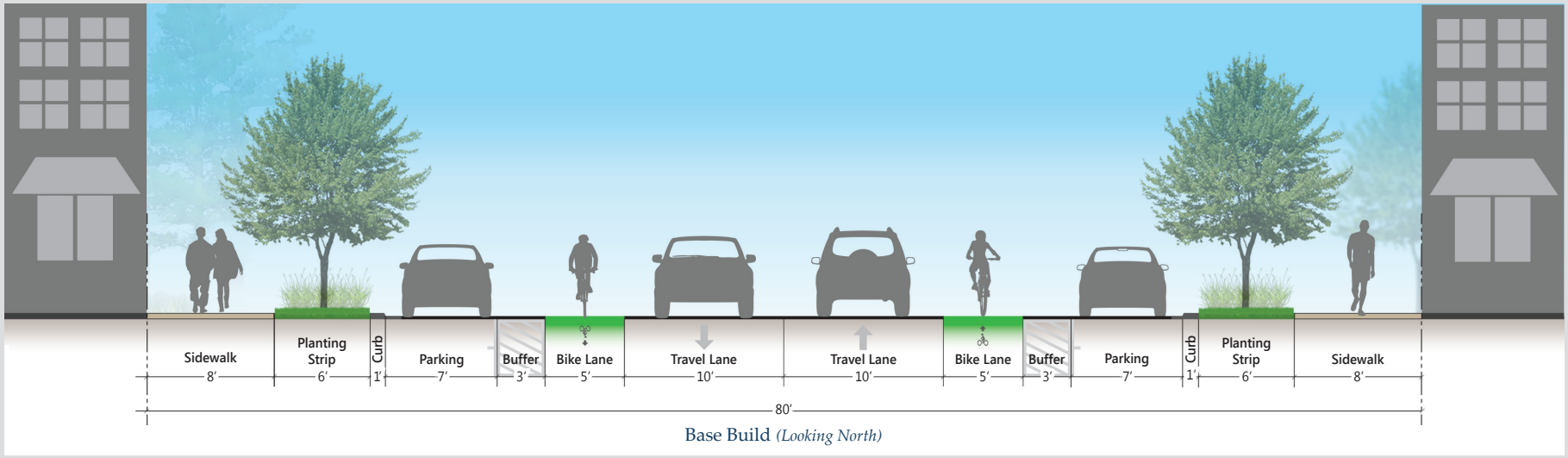
CITY OF NAPLES, FLORIDA
ON THE GULF

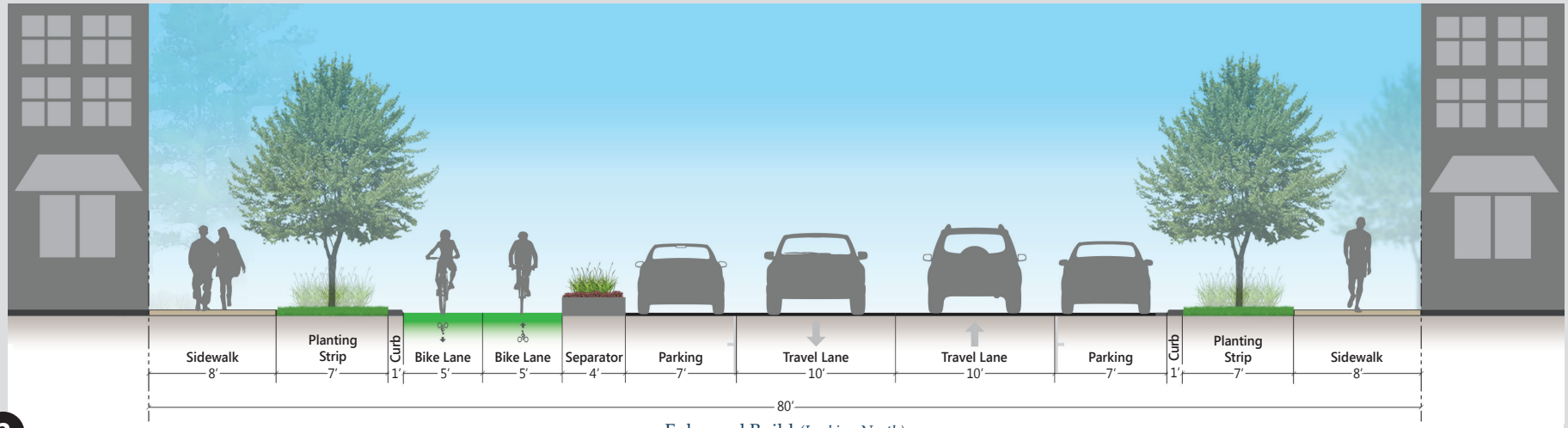
Figure 8

Gordon River Bridge (5th Ave S)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build *(Looking North)*



Enhanced Build *(Looking North)*

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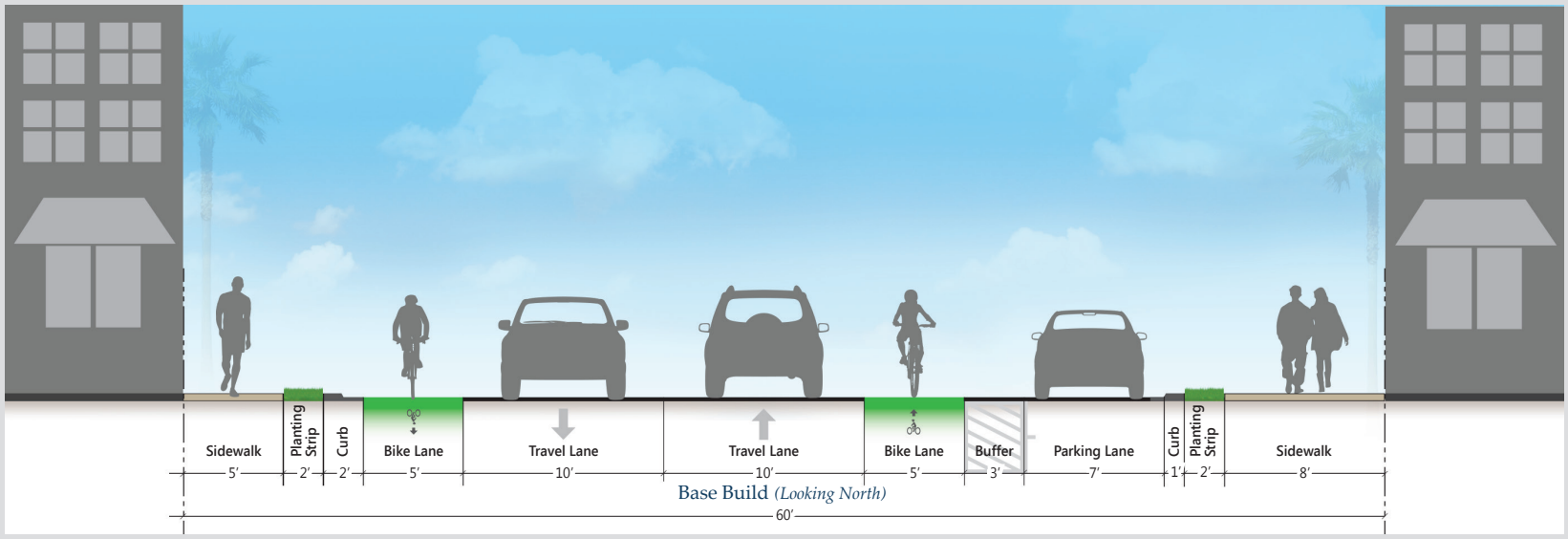
Figure 9

8th St S (6th Ave S - Central Ave)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



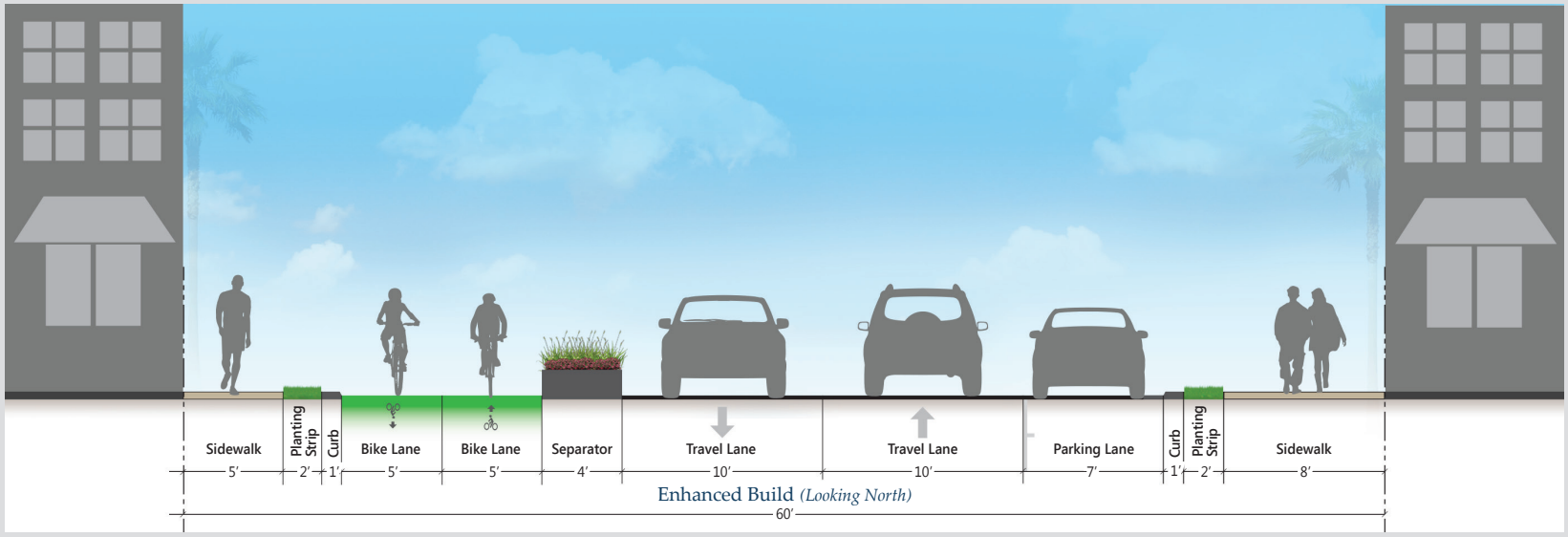


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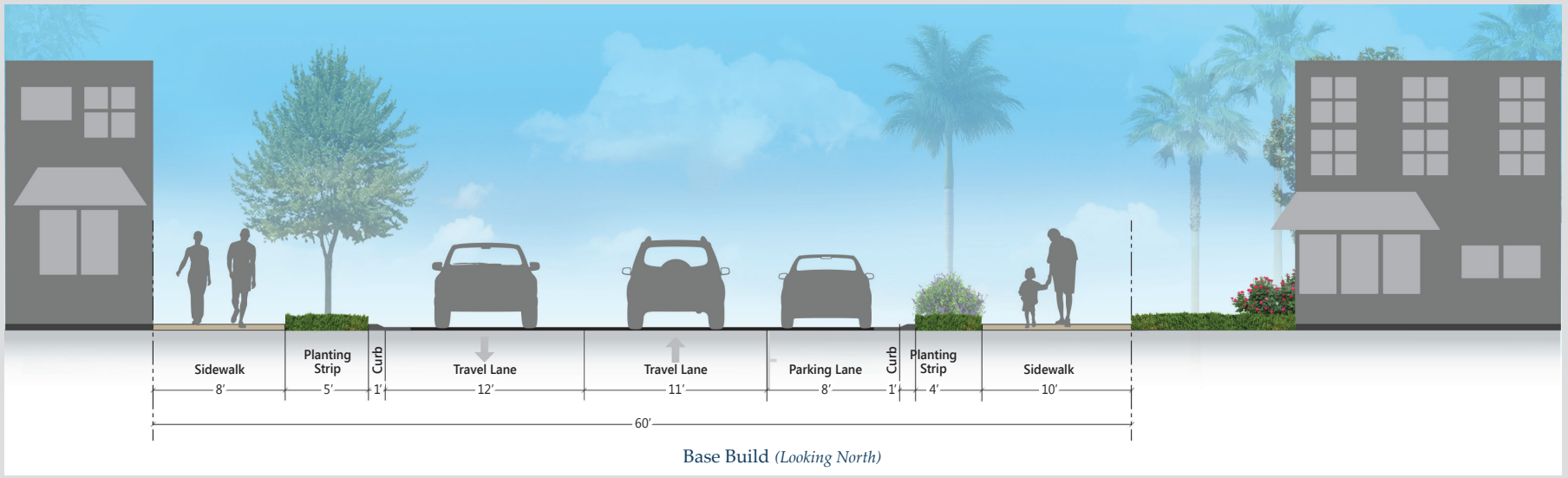
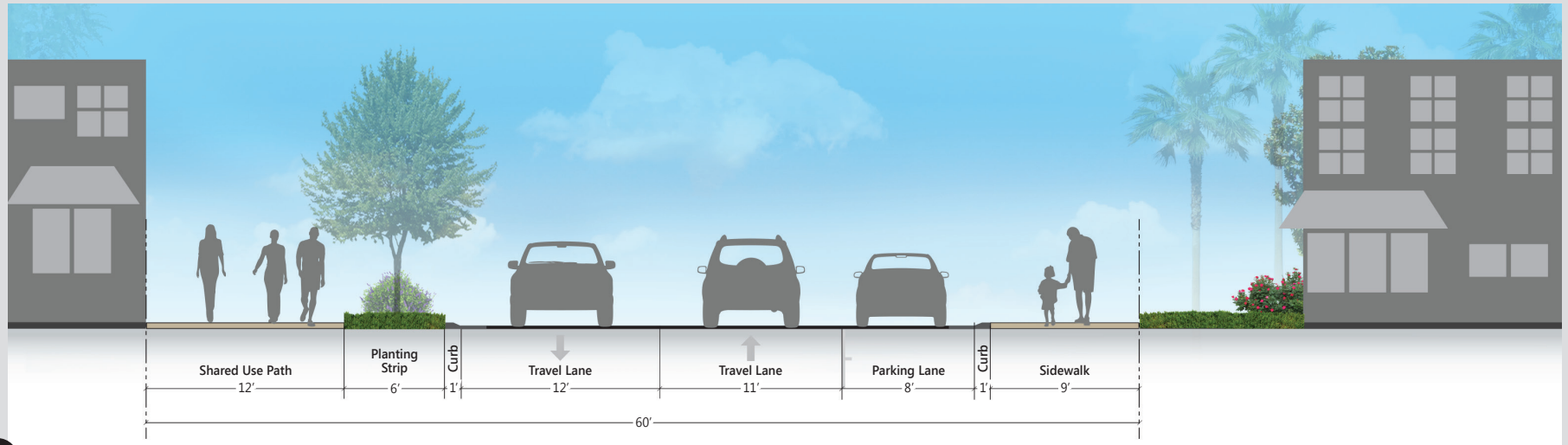
Figure 10

8th St N (Central Ave–7th Ave N)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build *(Looking North)*



Enhanced Build *(Looking North)*

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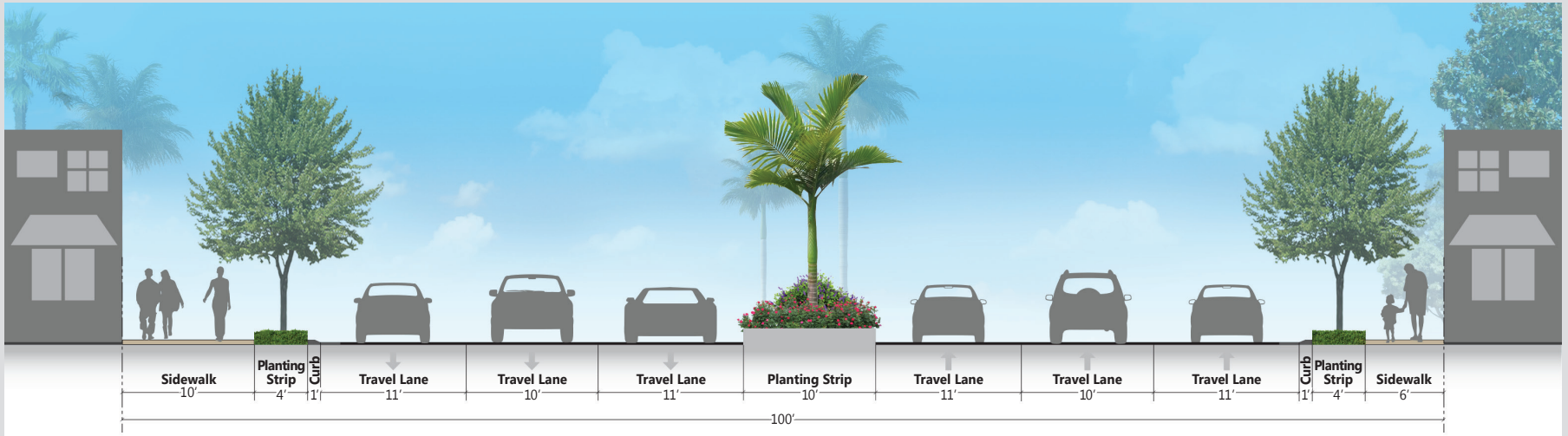
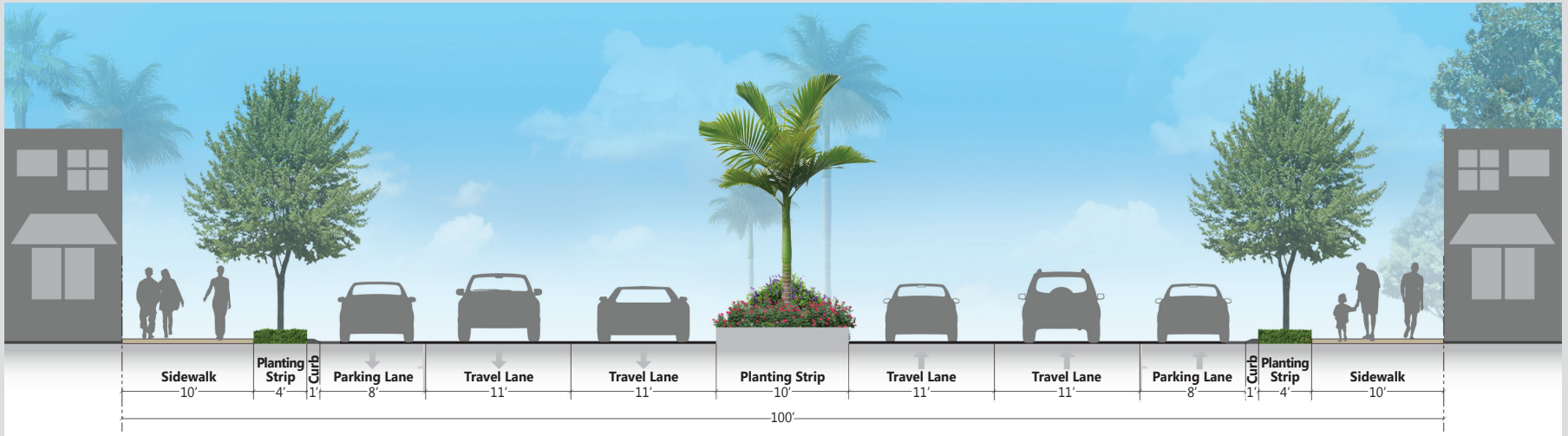
Figure 11

12th St S (6th Ave S - 5th Ave S)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build *(Looking East)*



Enhanced Build *(Looking East)*

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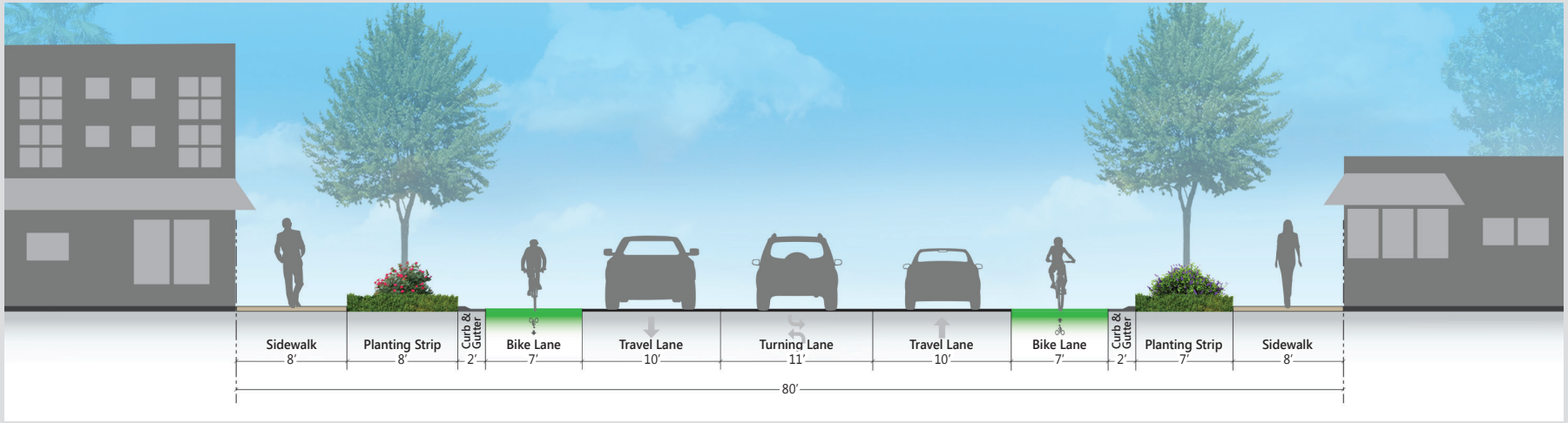
CITY OF NAPLES, FLORIDA
ON THE GULF

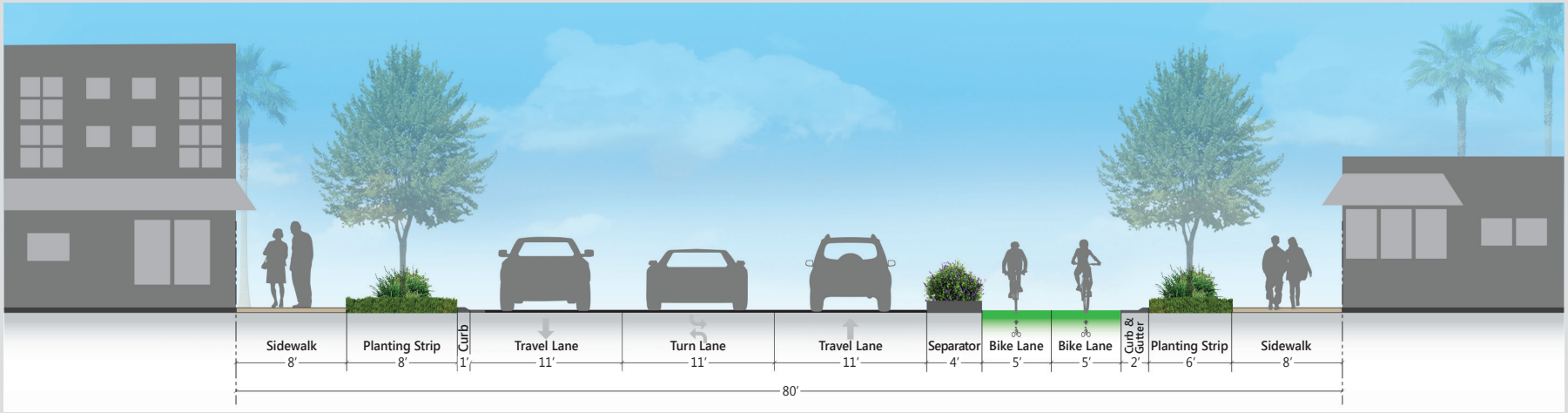
Figure 12

5th Ave S (9th St S – Goodlette-Frank Rd)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build *(Looking East)*



Enhanced Build *(Looking East)*

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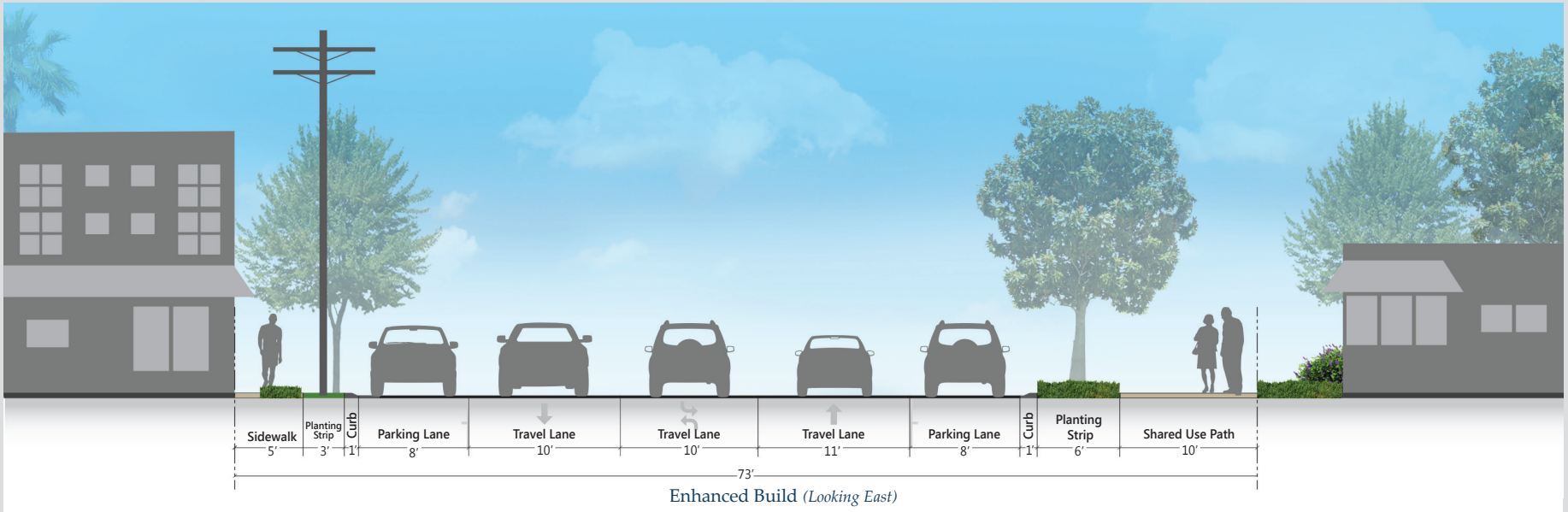
N.T.S.

Figure 13

4th Ave N (6th St N - 8th St N)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Enhanced Build *(Looking East)*

8

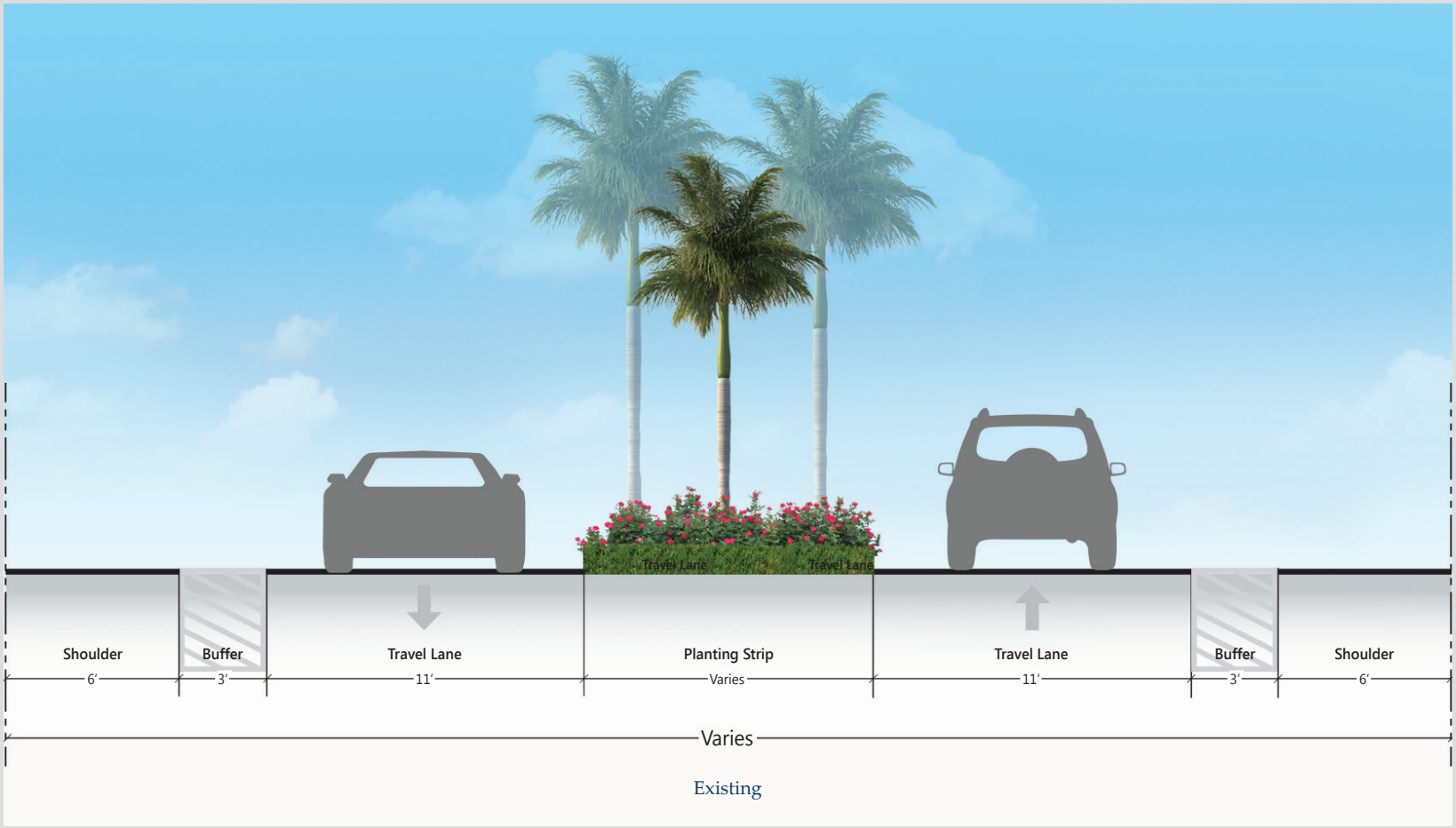
N.T.S.

CITY OF NAPLES, FLORIDA
ON THE GULF

Figure 14

5th Ave N (8th St N - Goodlette -Frank Rd)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



9

N

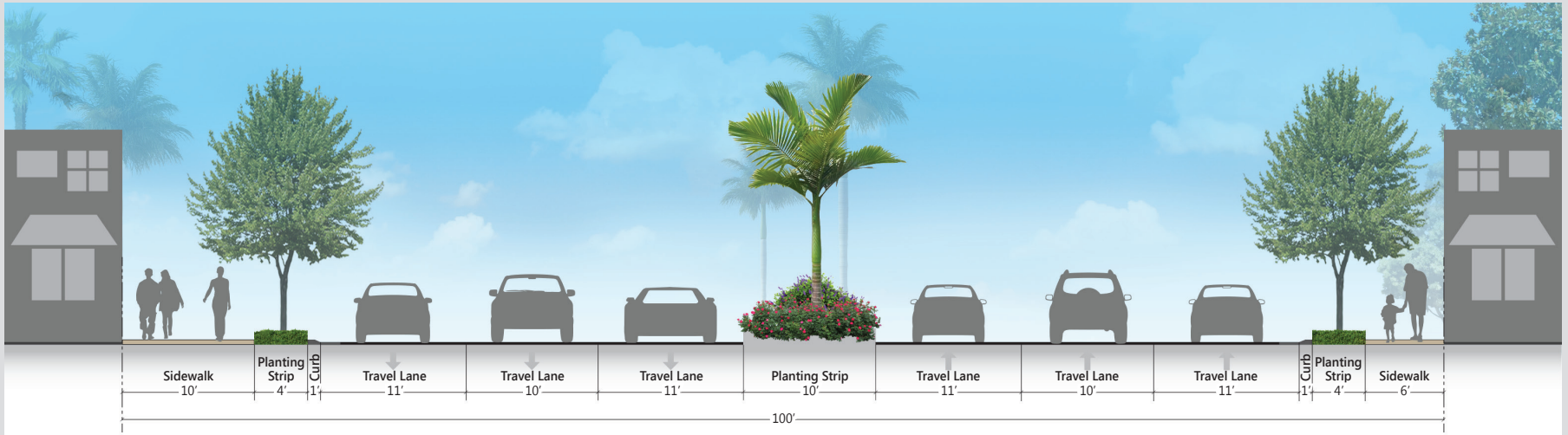
N.T.S.

CITY OF NAPLES, FLORIDA
ON THE GULF

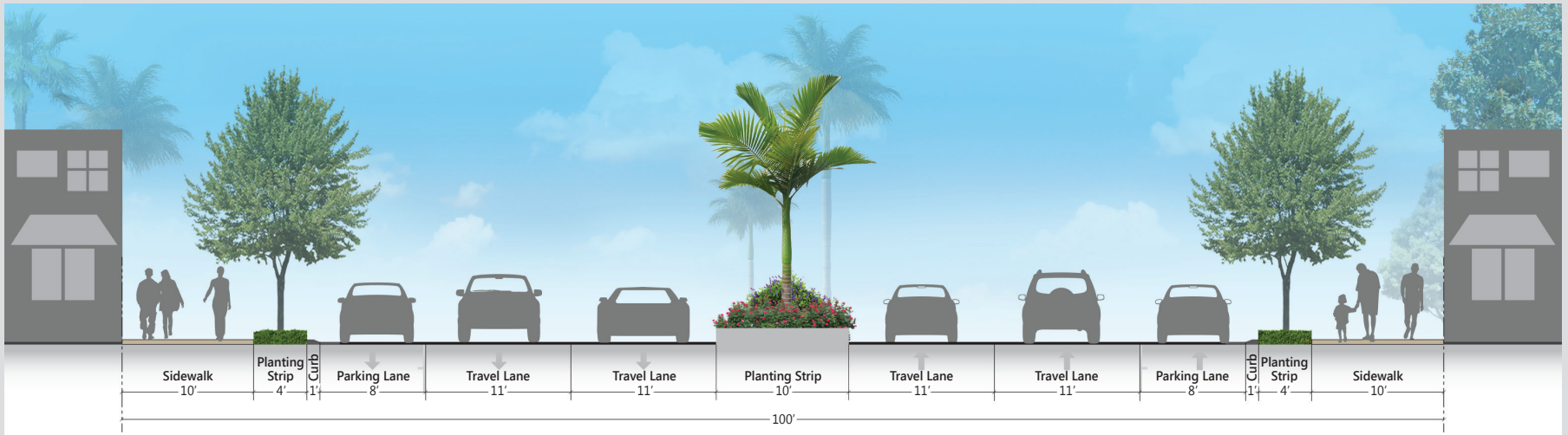
Figure 15

7th St N (4th Ave N - 7th Ave N)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build *(Looking North)*



Enhanced Build *(Looking North)*

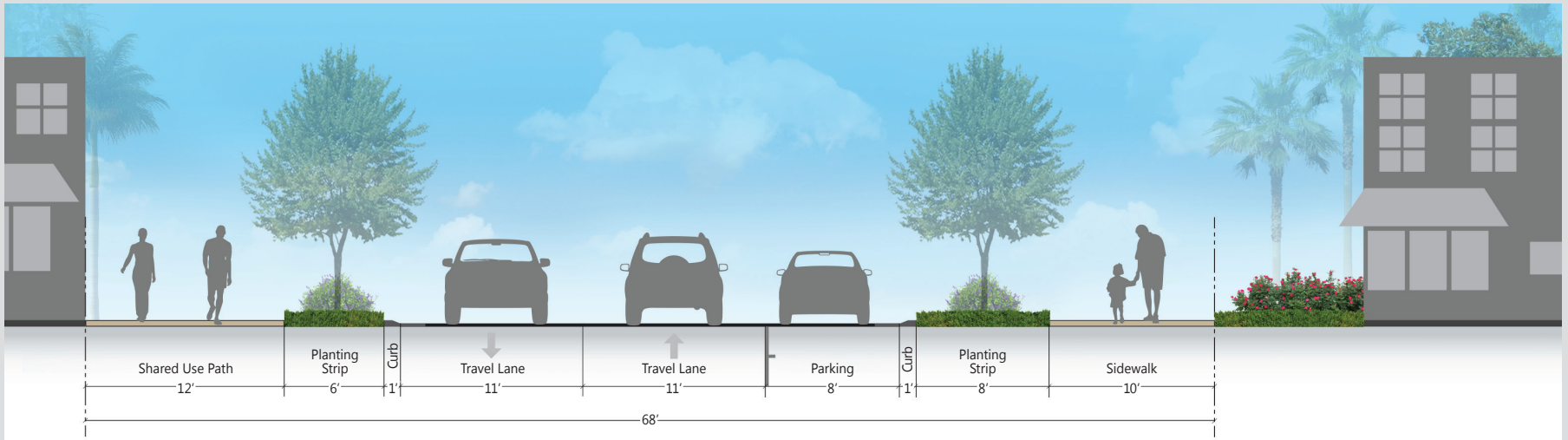
10

N.T.S.

Figure 16

9th St (5th Ave S - 7th Ave N)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Enhanced Build *(Looking East)*

11

N

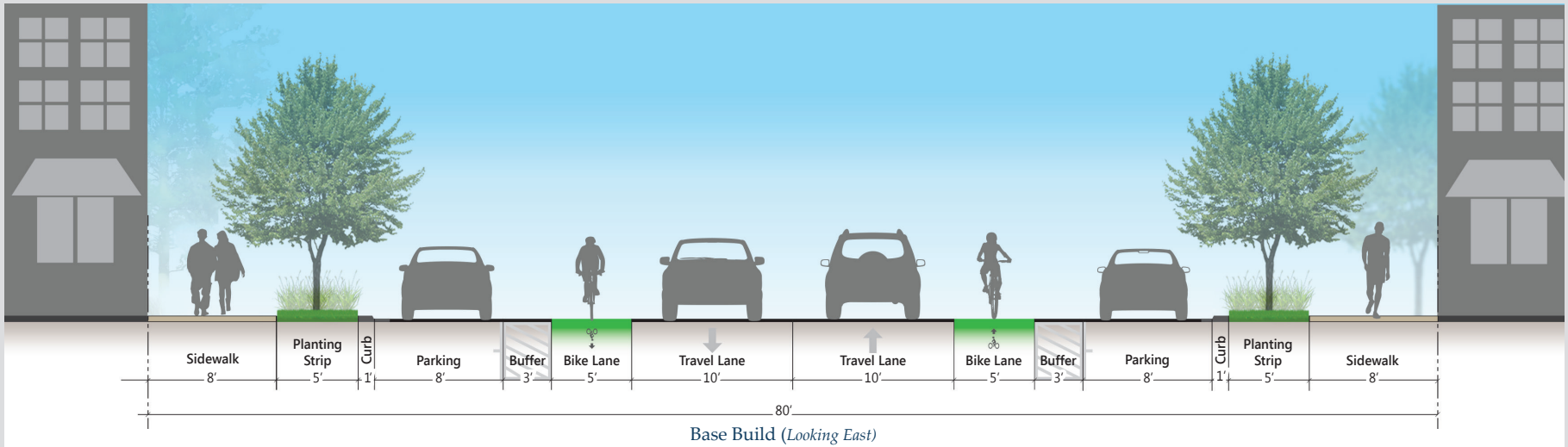
N.T.S.

CITY OF NAPLES, FLORIDA
ON THE GULF

Figure 17

6th Ave S (8th St S - 12th St S)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build (*Looking East*)

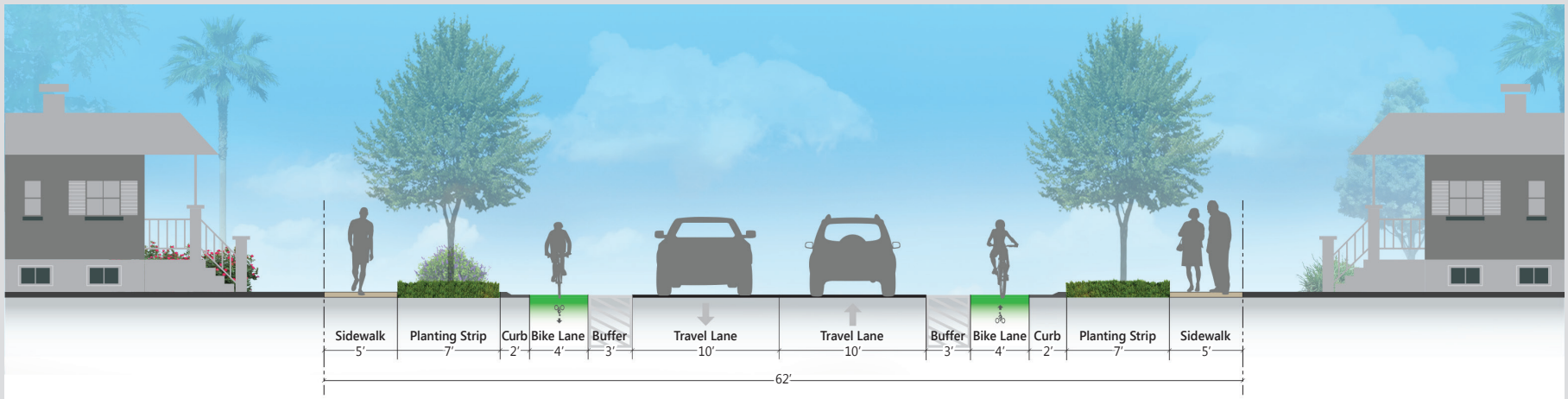
12

N.T.S.

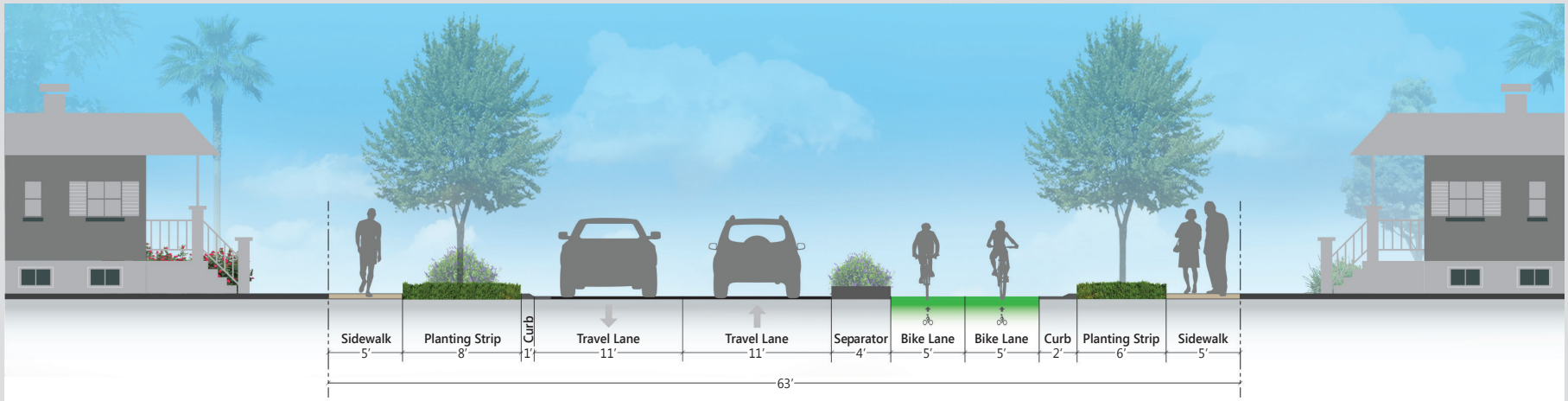
Figure 18

3rd Ave S (9th St S - Goodlette-Frank Rd)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build *(Looking East)*



Enhanced Build *(Looking East)*

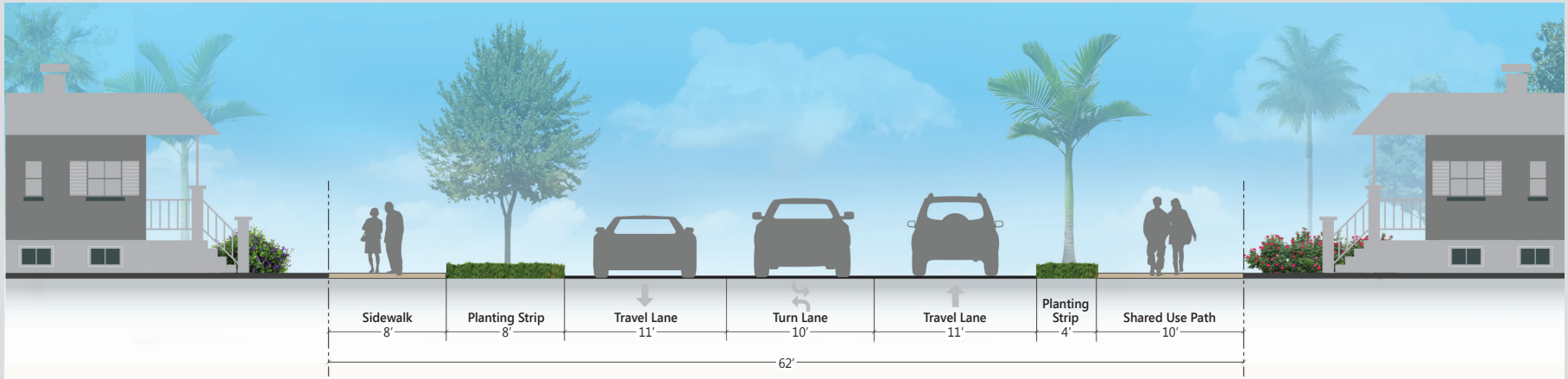
13

N.T.S.

Figure 19

4th Ave N (Gulf Shore Blvd - 6th St N)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Enhanced Build *(Looking East)*

14

N

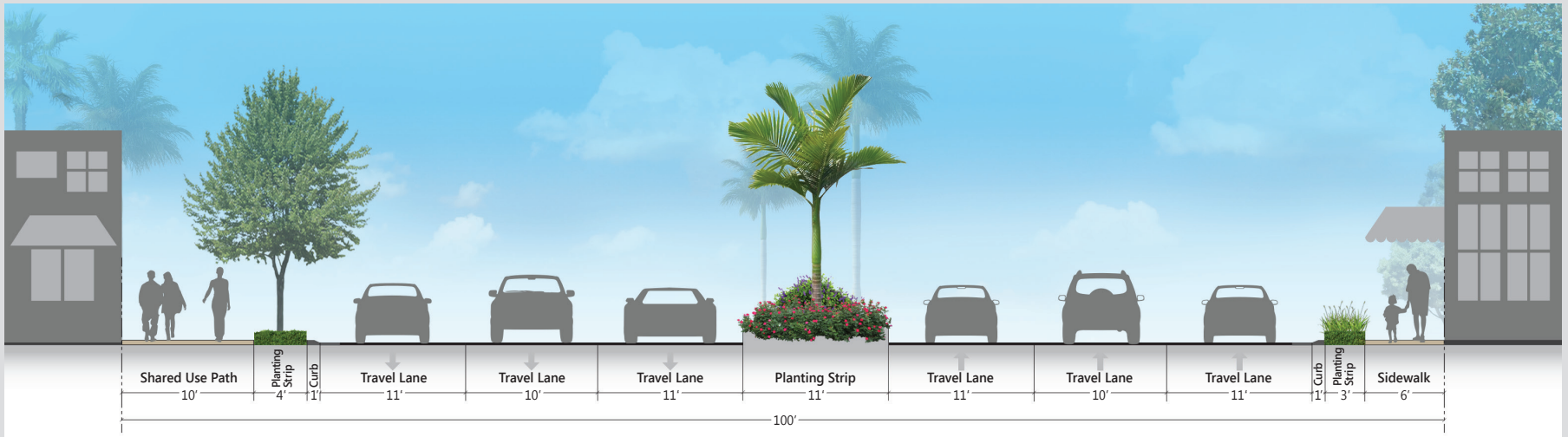
N.T.S.

CITY OF NAPLES, FLORIDA
ON THE GULF

Figure 20

7th Ave N (8th St N - Goodlette-Frank Rd)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build *(Looking North)*

15

N

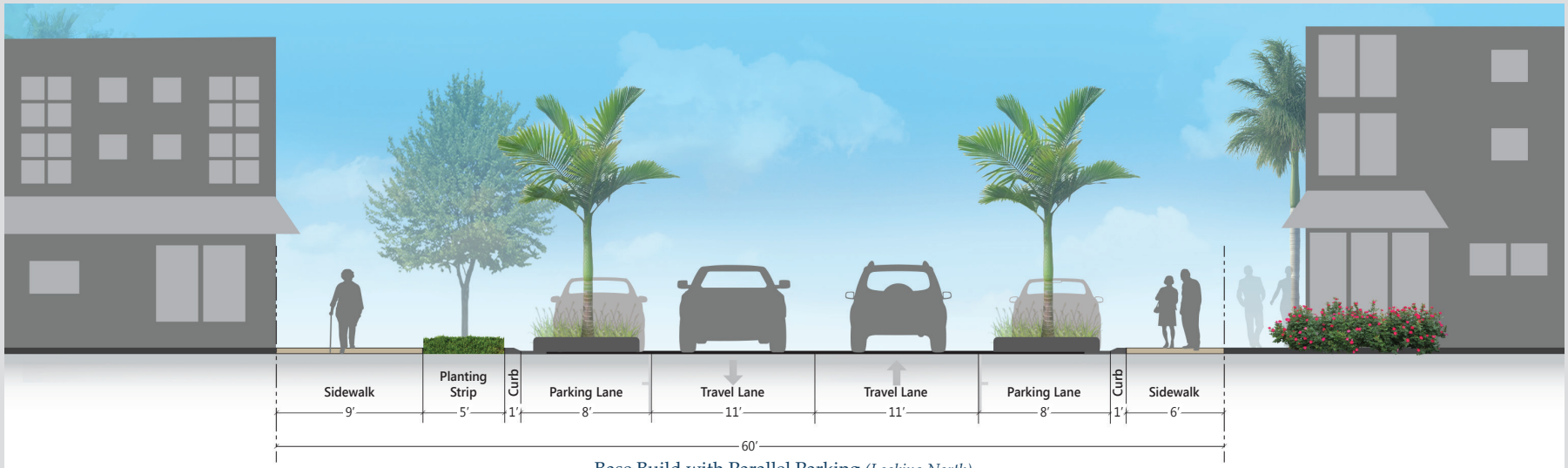
N.T.S.

CITY OF NAPLES, FLORIDA
ON THE GULF

Figure 21

9th St (7th Ave N - 14th Ave N)
Downtown Naples
Mobility & Connectivity Study

Source: VHB



Base Build with Parallel Parking *(Looking North)*

16

N.T.S.

Figure 22

10th St (Central Ave - 6th Ave N)
Downtown Naples
Mobility & Connectivity Study

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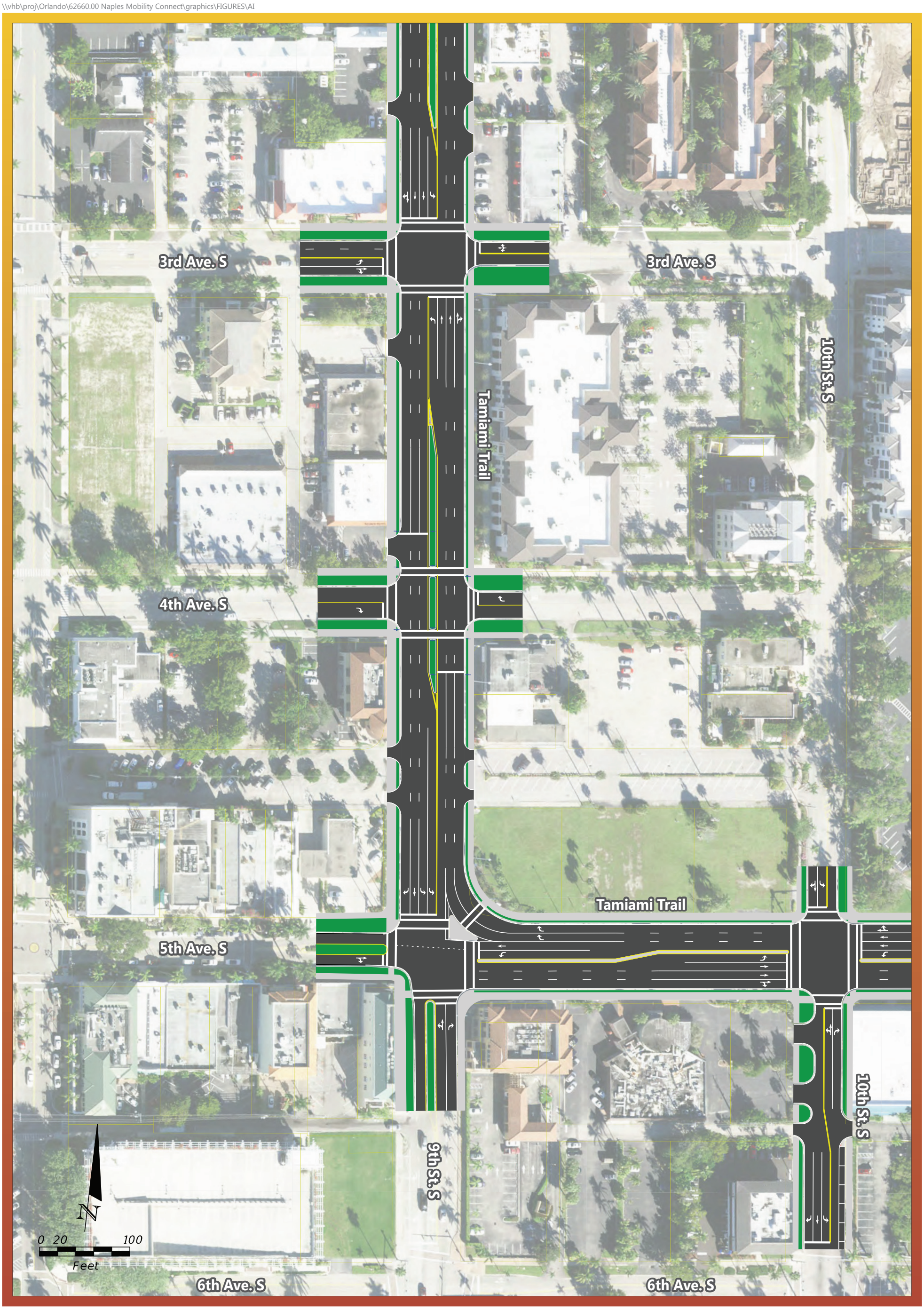

Figure 23

Base Build Concept Plan - US 41 West
Downtown Naples
Mobility & Connectivity Study

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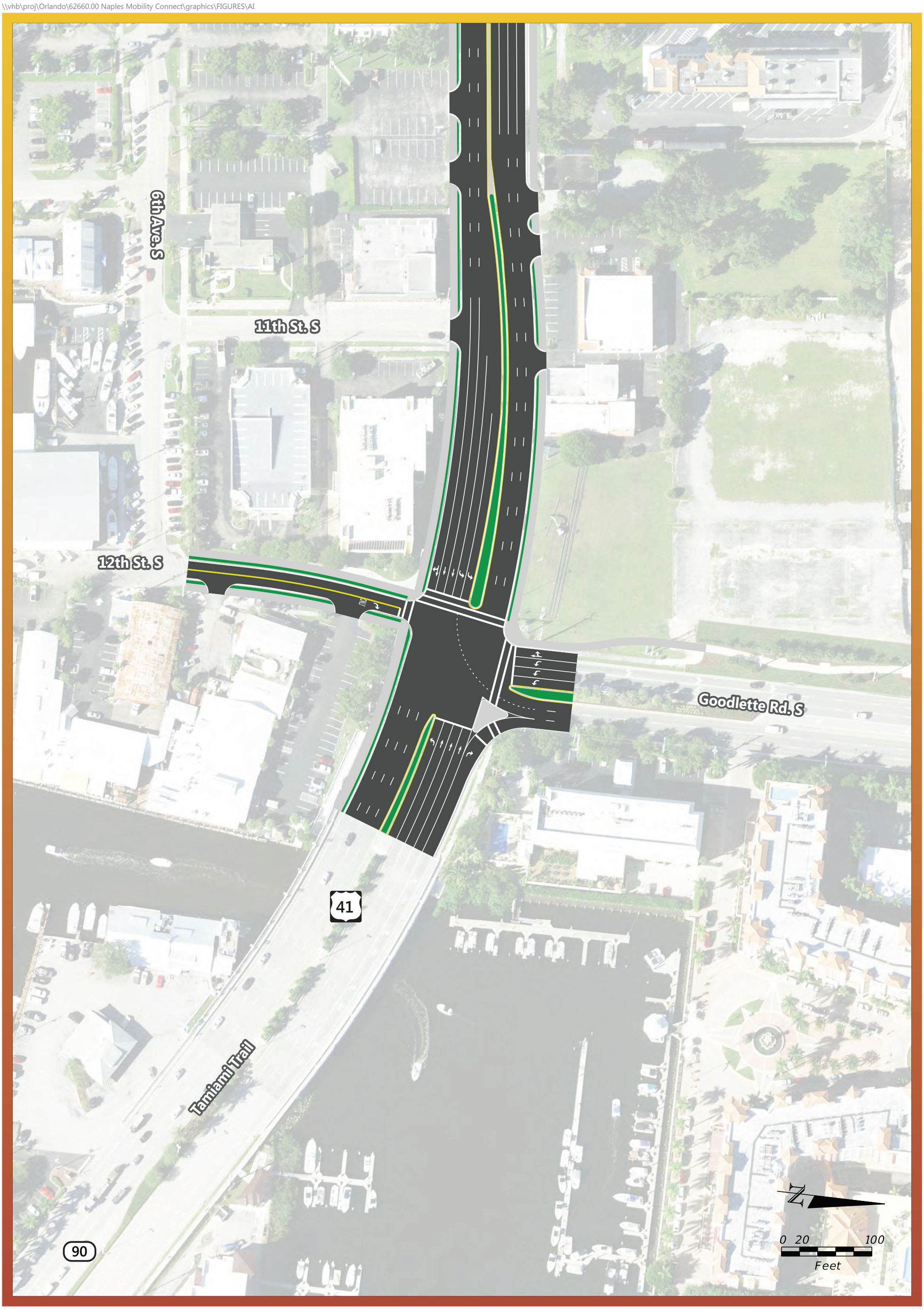

Figure 24

Base Build Concept Plan - US 41 East
Downtown Naples
Mobility & Connectivity Study

\\vhb\proj\Orlando\62660.00 Naples Mobility Connect\graphics\FIGURES\AI

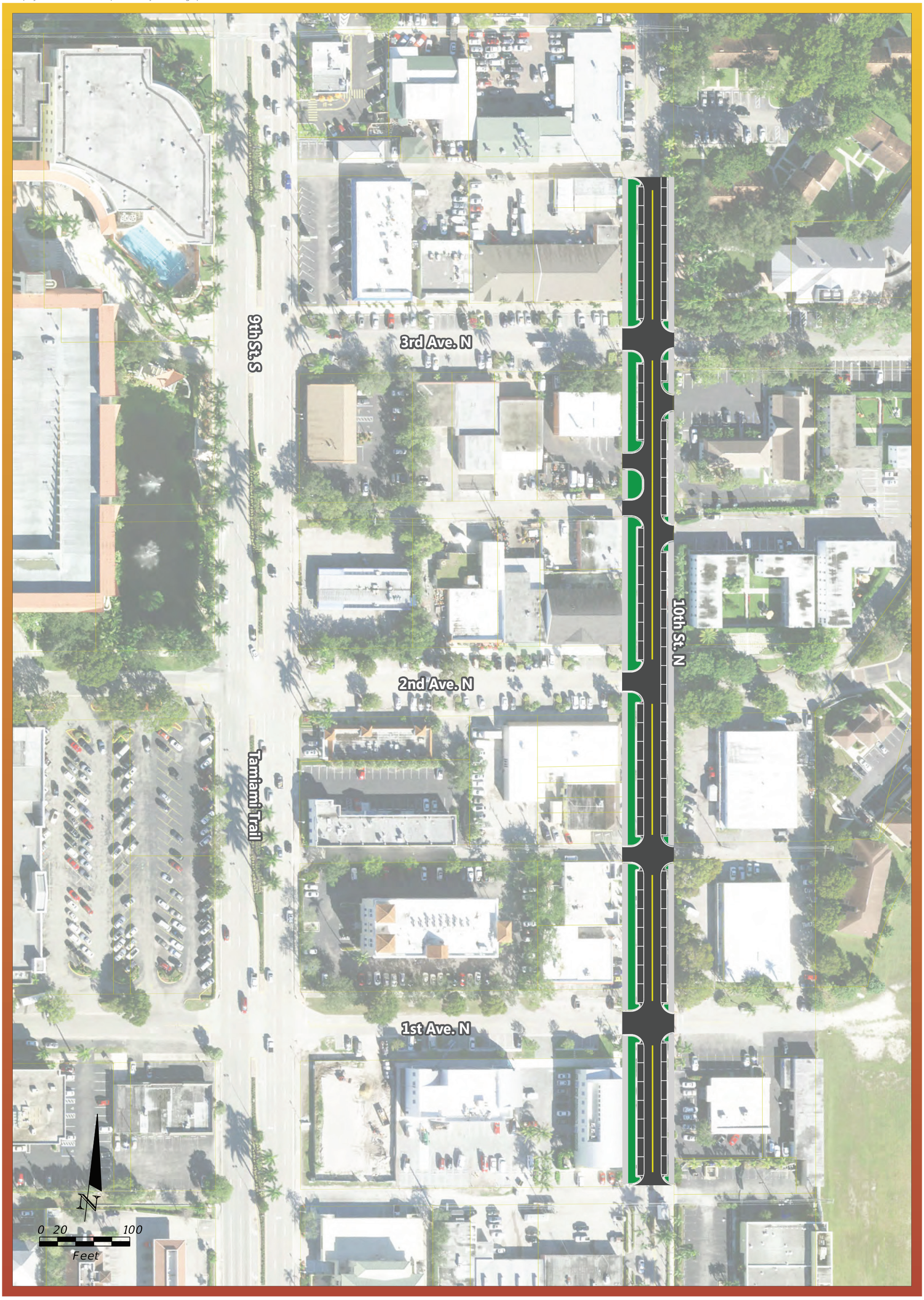

Figure 25

Base & Enhanced Build Concept Plan - 10th St.
Downtown Naples
Mobility & Connectivity Study

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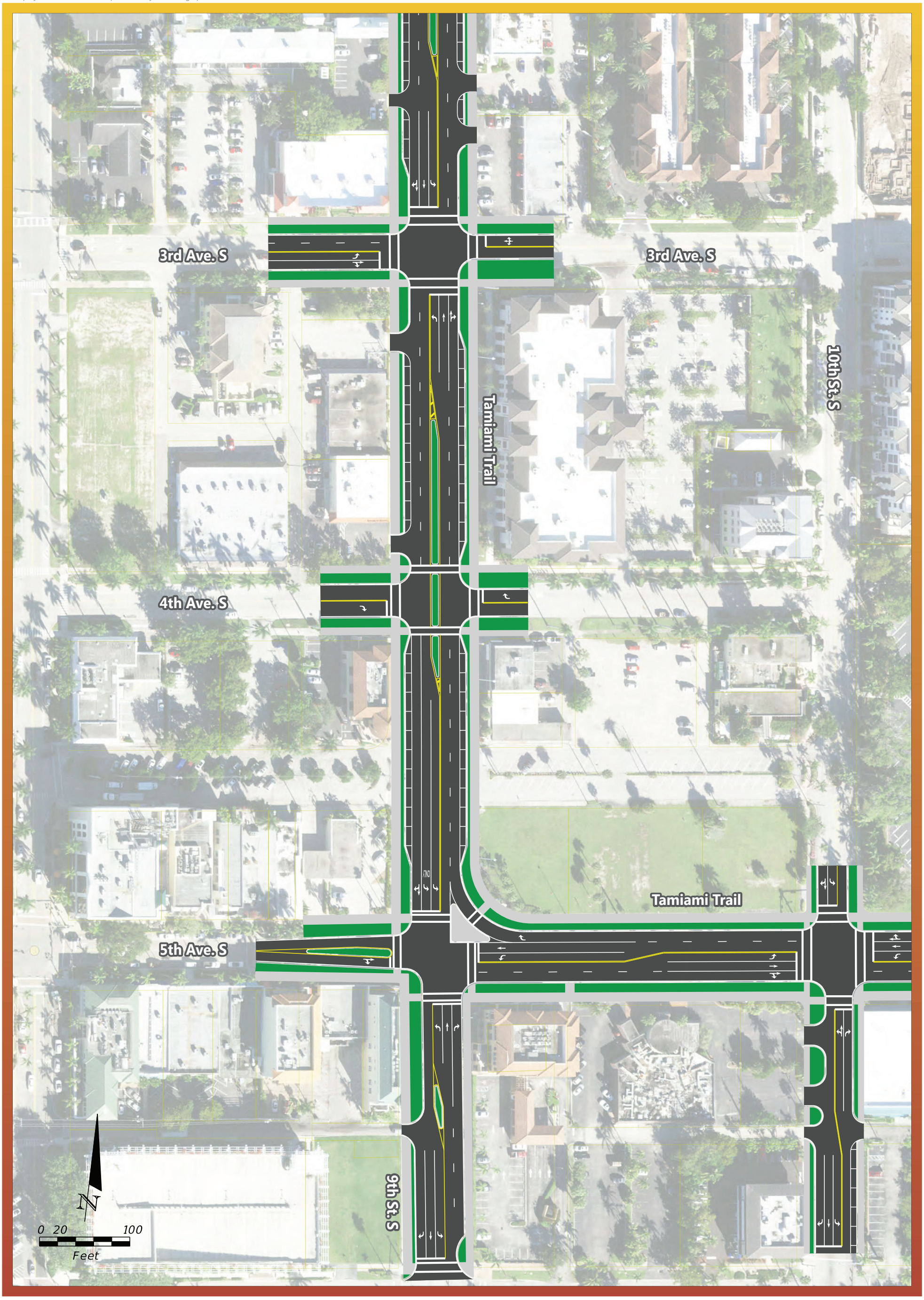

Figure 26

Enhanced Build Concept Plan - US 41 West - Signalized Intersection
Downtown Naples
Mobility & Connectivity Study

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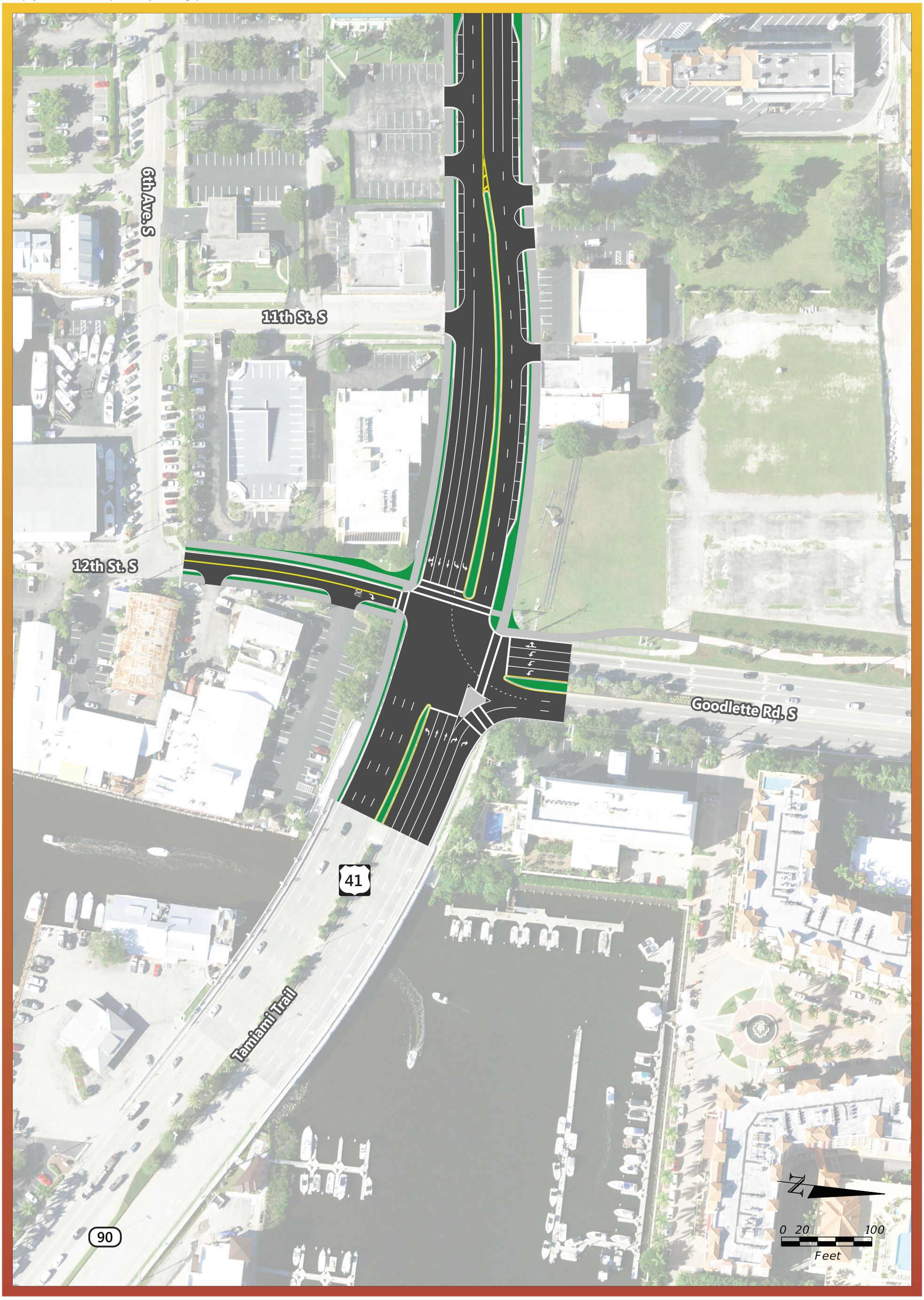

Figure 27

Enhanced Build Concept Plan - US 41 East
Downtown Naples
Mobility & Connectivity Study

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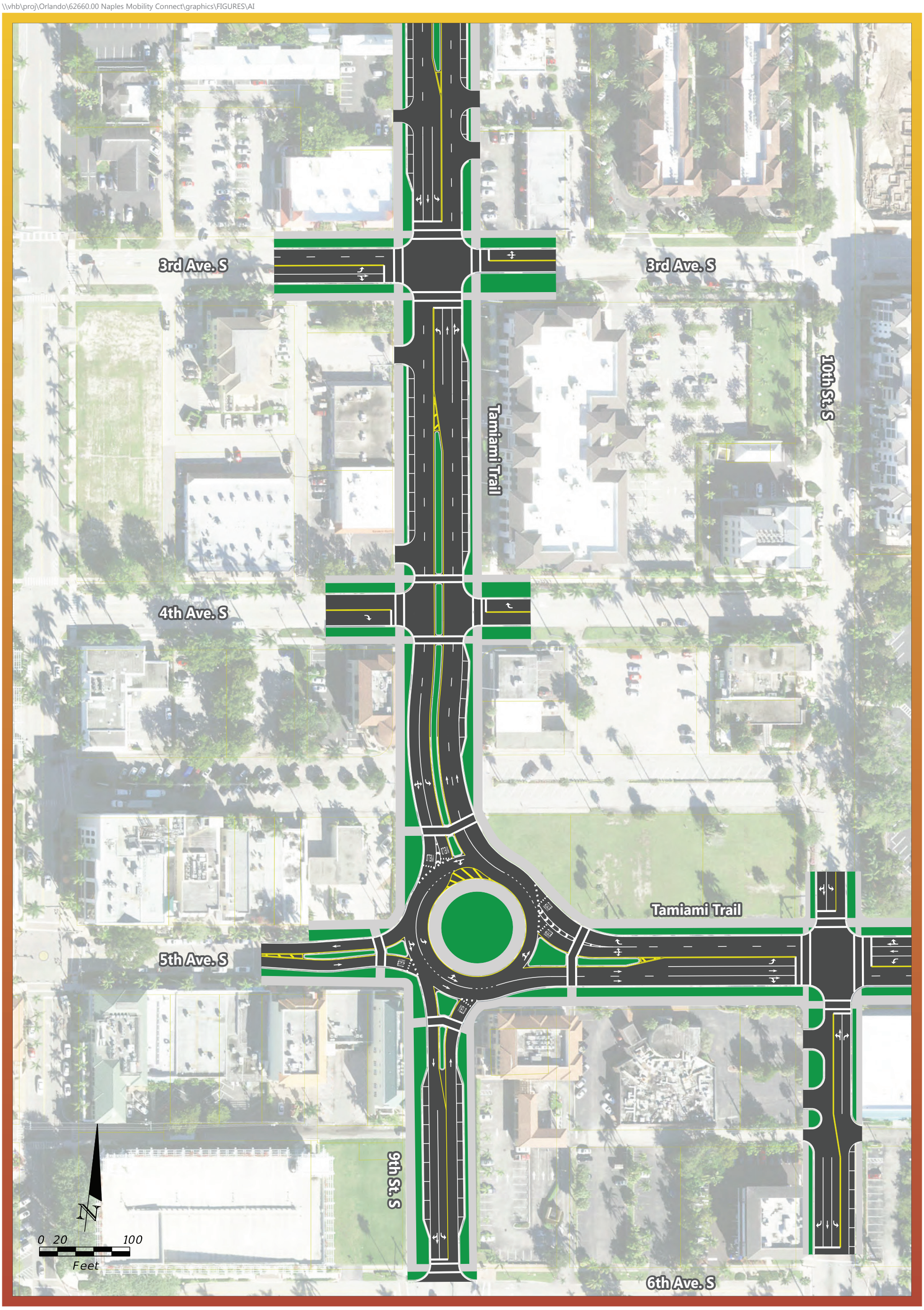


Figure 28

Enhanced Build Concept Plan - US 41 West - Roundabout
Downtown Naples
Mobility & Connectivity Study

2.6.2 Economic Impact

The economic analysis was performed to demonstrate to what extent the planned transportation improvements on US 41 could spur economic benefits through increase property values within the City of Naples. The basis for the estimated potential economic impact was a series of five case studies of lane elimination projects, or road diets. The analysis estimated the impacts on parcels located within 500 feet of the corridor. The current assessment, the value with the Base Build on US 41, and the value with the Enhanced Build US 41 are shown in Figure 29. The potential increase in value could be up to 70% more of the current value for the Base Build and 70% - 140% for the Enhanced Build. The increases in value translate to tax revenue to the City and the County.

The results show that under the Low Scenario it is estimated that an additional $300,000 could flow to the City each year as well as an additional $1.5M paid to the County. Under the high scenario these figures increase to $600,000 and $3.0M, respectively.

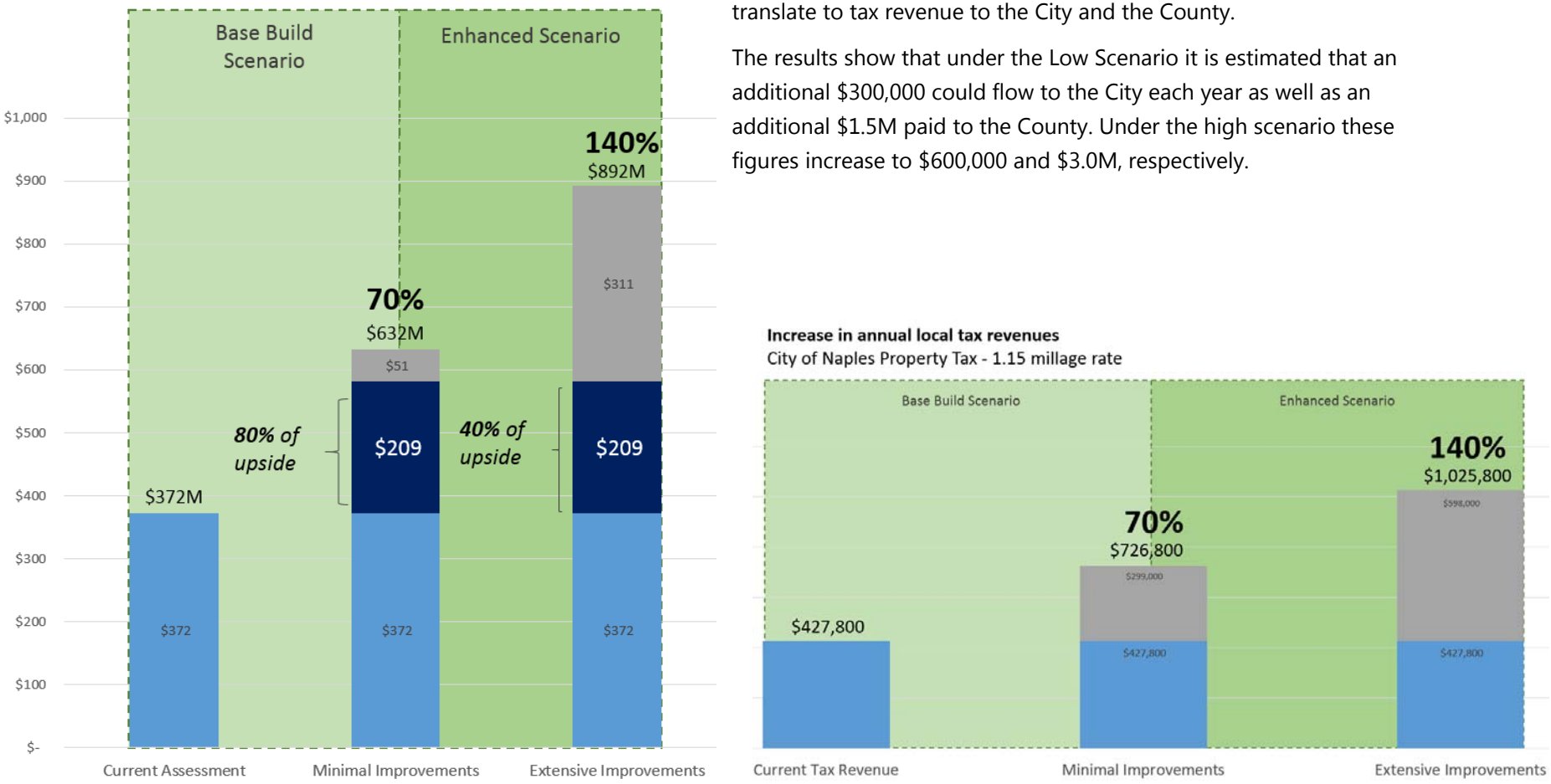


Figure 29: Results of Economic Analysis

2.6.3 Performance Evaluation

Each of the alternatives were qualitatively assessed in relation to the established project goals, as shown in Table 4. The Enhanced Build, with the greater level of separation of pedestrians from traffic by the on-street parking along US 41 and the separation for cyclists afforded by the cycle tracks is the best performing alternative with relation to bicycle and pedestrian safety. The increased safety, perceived or real, also contributes to an increased proclivity for residents to use these non-motorized modes of travel. As such, the Enhanced Build was also rated higher for promoting non-motorized modes of transportation.

Both the Base and Enhanced Build alternatives greatly expand transportation connectivity, and do so for a similar cost. Therefore, both alternatives were scored similarly for providing a safe bicycle and pedestrian network, expanding transportation mode connectivity and providing facilities in an equitable and cost-efficient manner.

Finally, the road diet on US 41, with associated on-street parking and sidewalk enhancements, represents the distinguishing element that separates the Enhanced Build from the Base Build with respect to enhancing community quality of life and promoting economic development. Implementation of the road diet on US 41 will discourage regional traffic, which has no origin or destination within Downtown Naples, from driving through the downtown area, thereby increasing the livability and walkability of the major thoroughfare through Downtown Naples, and extending the economic vibrancy of the 5th Avenue S Shopping District to the 9th Street/US 41 corridor. Implementation of the road diet will present expanded opportunities for economic development and improved quality of life throughout Downtown Naples.

Considering all these goals and the performance of each alternatives in relation to each of them, it is evident that the Enhanced Build performs better overall. Through the process, although the cycle track is considered a high-quality on-road facility, concern for cyclists riding on the contraflow side of the street was not the direction the committee was willing to go in. Therefore, an Implementation Plan was developed, which combines the two build alternatives by following the Enhanced Build with one modification; buffered bike lanes were substituted for the cycle tracks on 8th Street and 4th Avenue N.

While the data and technical analyses support the selection of the Implementation Plan and associated road diet on US 41, the City should ultimately make the decision in determining what is right for their community by weighing the merits of each alternative. To aid in this process, the study team developed a matrix that compares the various elements included in each plan. This matrix is presented in Appendix C.

Table 4: Performance Evaluation

Goals	Base Build	Enhanced Build
Provide a Safe Bicycle and Pedestrian Network	●	●
Expand Transportation Mode Connectivity	●	●
Promote Economic Development	◐	●
Enhance Community Quality of Life	◐	●
Promote Non-Motorized Modes of Transportation	◐	●
Provide Facilities in an Equitable and Cost-Efficient Manner	●	●

Key ● Fully meets ◐ Partially meets ○ Does not meet

2.6.4 Policy Evaluation

The study included a review of adopted plans, including the City's Comprehensive Plan, Pedestrian and Bicycle Master Plan, and Community Redevelopment Agency Plan. The City of Naples has established policies that encourage connectivity and mobility, which shows that the City recognizes the need to enhance the pedestrian and bicycle facilities in the City of Naples. Furthermore, many of the issues and recommendations identified in the CRA Plan are addressed by this Study and related refined alternatives. However, there are some policies that may be obstacles to implementing the recommended alternatives of this Study; therefore, to further the goals of this Study, the following actions are recommended:

1) Revise Transportation Element Policy 3-3. This policy currently states the City should assist the SWFLPT to acquire funding for the design and construction of a greenway bicycle/pedestrian pathway, including along Goodlette-Frank Road. This connection is not included in the refined alternatives; therefore, the policy should be revised to remove Goodlette-Frank Road, and include the shared use path and bike lanes along 9th and 8th Street as identified in the refined alternatives.

2) Revise Transportation Element Policies 1-4 and 2-1. These policies are intended to enhance the traffic flow on the main arterials and collectors, and encourage "the diversion of traffic from local streets to collectors and arterials." The intent of these policies is to provide a safe network of local streets, discourage cut-through/intrusive traffic, and maintain an efficient network on the arterials and collectors. However, as noted, these policies could be interpreted to prevent local residents from using the local streets for daily trips, thereby unnecessarily increasing traffic on the main network, and potentially impacting the safety and effectiveness of the arterials and collectors. Additionally, the "Enhanced Alternative" includes an evaluation of a lane reduction (road diet) on 9th Street/US 41. These policies should be rewritten to clarify the intent to create an efficient mobility network, and remove language that may be interpreted as adding more vehicle trips to arterials and collectors.

3) The City should analyze and determine if it wants to maintain concurrency or use another funding mechanism (e.g. mobility fee) to fund transportation improvements within the City.

4) If the City maintains concurrency, Policy 1-14 should be revised to include that even though public transit facilities are exempt from concurrency management requirements, the City should continue to coordinate with Collier Area Transit (CAT) to support the use of public transportation and address the future needs of the City based on new development.

5) The 2013 Pedestrian and Bicycle Master Plan noted Staff concern over the maintenance of sharrows and similar street markings. Sharrows are included in the refined alternatives, specifically on 10th Street. The City should work to address maintenance concerns expressed by the streets and maintenance staff during this previous study.

6) The 5th Avenue district section of the CRA Plan suggested adding bicycle facilities along 5th Avenue. This recommendation is not included in the refined alternatives. This Mobility and Connectivity Study recommends a parallel option along 6th Avenue as the preferable alternative. The CRA Plan should be revised for consistency, providing the ability to use CRA funds to implement the alternatives of this Study.

7) The Naples Parking Report, completed by DESMAN, included recommendations for the City relating to parking within the Study area. That document was previously submitted to the City and is available for review. DESMAN concluded the valet ordinance should be revised including the following:

    - Operators should be required to carry proof of insurance which should explicitly exempt the City of Naples from any liability.
    - Require payment by the valet operator to the City for any loss of public spaces due to vehicle pick up/drop-off or vehicle storage in on- or off-street public parking spaces.
    - Valet parking plans submitted to City Council should be required to demonstrate that they do not create conflicts, backups, queuing, congestion, or other issues on 5th Avenue when in operation.

- Valet parking plans submitted to City Council should identify where the operator plans to park the vehicles they valet.
- The Business Tax paid annually by valet companies should be increased to account for the loss of use of spaces on the public way and for future maintenance of those spaces; valet operations are classified as a Service Establishment and should be required to pay their fair tax accordingly.

Furthermore, this report agreed with the Downtown District Analysis Preliminary Recommendation of reducing the minimum required parking for efficient housing units to 1.5 spaces per unit. It did not agree with the recommendation to use the 6th Avenue South Garage to satisfy demand in the Midtown Design District. The City should continue to evaluate or reconsider this option.

8) As a part of the implementation of FDOT's Complete Streets Policy, all state-owned facilities are, or will be classified under one of the eight categories within their new Context Classification System. The City can participate on the classification or reclassification of the roadways within their jurisdiction. At the time of the writing of this report, the process was still underway. For future projects, the FDOT Complete Streets Handbook provides a process for classifying corridors which includes input from local jurisdictions. As the City moves through the implementation of their plans, it is recommended the City coordinates with the FDOT and the MPO as part of this process.

3

Implementation

The intent of this chapter is to provide implementing agencies, the City of Naples, Collier County and the Florida Department of Transportation, information and support in carrying out the recommendations resulting from this study. This chapter presents the Implementation Plan through a series of projects and provides information related to each project that will aid in the implementation process.

3.1 Project Summary Table

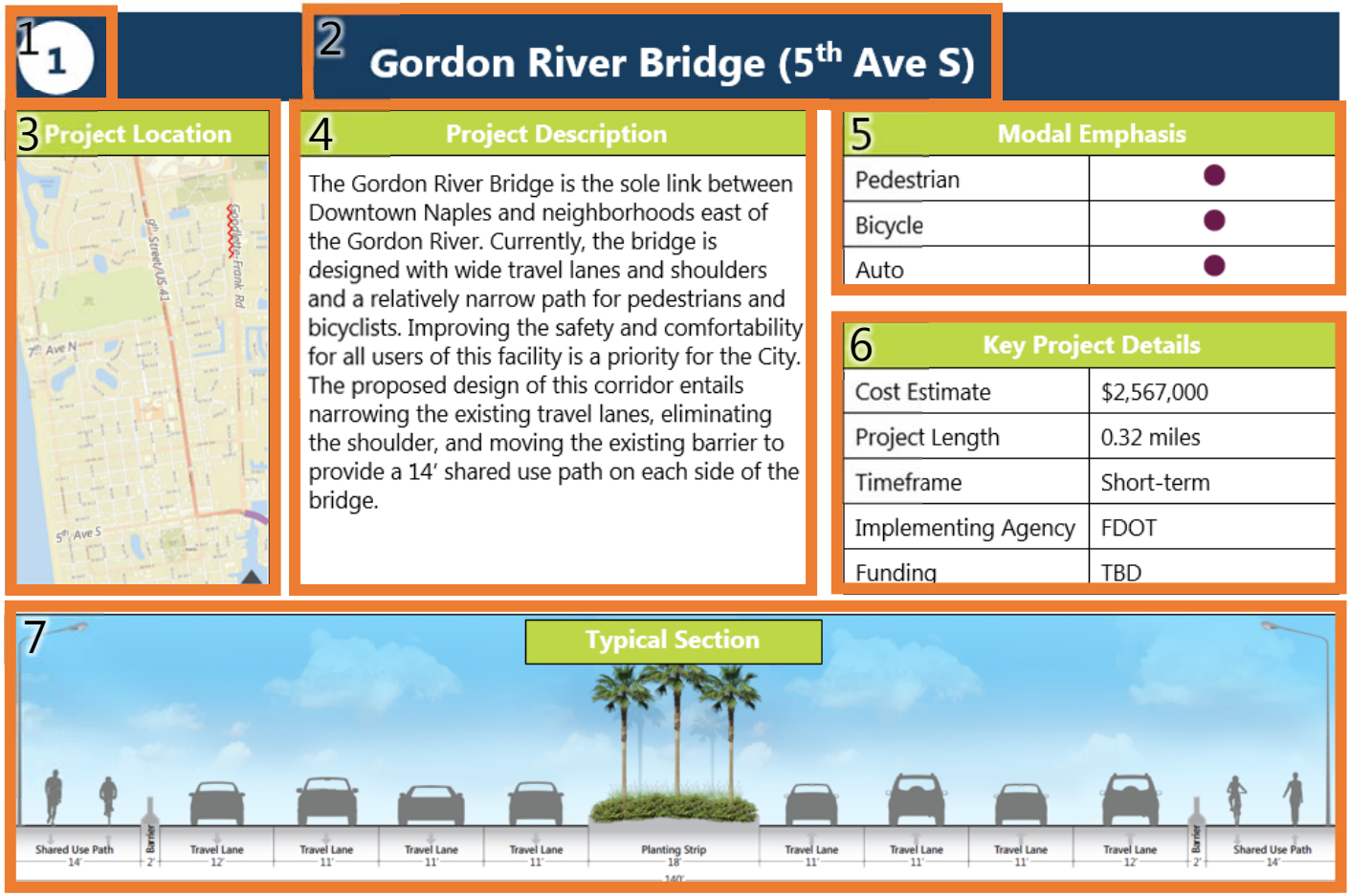
In developing an implementation strategy for the resulting Implementation Plan, the study team broke the recommended network into a series of projects that could be more manageably implemented. Larger projects that required a total reconstruction of the roadway segment were separated on a corridor by corridor basis. Smaller segments that represented either new construction of an ancillary facility or retrofit of an existing facility were grouped together into a project called "Fill the Gaps" (Project #5). For each of these projects, a timeframe for implementation was determined (short-term, mid-term, or long-term), a cost estimate, including design, construction and CEI, was developed using FDOT's Long Range Estimate tool, agencies with a role in implementing the projects were identified, and potential funding sources were examined. Short-term projects represent projects that can be implemented in the next five years, mid-term projects are those that could be implemented in the next five to 15 years, and long-term projects are those with implementation timeframes past 15 years. Table 5, the Project Summary Table, summarizes each of the recommended projects and key implementation information. More information related to the cost estimating may be found in Appendix D.

Table 5: Project Summary Table

#	Project	Length	Term	Cost Estimate	Implementing Agency	Funding
1	**Gordon River Bridge**	0.32 miles	Short-term	$2,567,000	FDOT	TBD
2	**8th St S:** 6th Ave S - Central Ave	0.42 miles	Short-term	$7,396,000	City of Naples	TBD
3	**8th St N:** Central Ave - 7th Ave N	0.62 miles	Short-term	$9,422,000	City of Naples	TBD
4	**12th St S:** 6th Ave S - 5th Ave S/US 41	0.06 miles	Short-term	$822,000	City of Naples	TBD
5	**Fill the Gaps**	7.70 miles	Short-term	$1,689,000	City of Naples	TBD
6	**5th Ave S/US 41:** Four Corners - Goodlette-Frank Rd	0.23 miles	Mid-term	$5,666,000	FDOT	TBD
7	**4th Ave N:** 6th St N - 8th St N	0.17 miles	Mid-term	$3,732,000	City of Naples	TBD
8	**5th Ave N:** 8th St N - Goodlette-Frank Rd	0.39 miles	Mid-term	$6,821,000	City of Naples	TBD
9	**7th St N:** 4th Ave N - 7th Ave N	0.32 miles	Mid-term*	$954,000	City of Naples	TBD
10	**9th St/US 41:** Four Corners - 7th Ave N	1.00 miles	Mid-term	$25,511,000	FDOT	TBD
11	**6th Ave S:** 8th St S - 12th St S	0.30 miles	Long-term	$5,110,000	FDOT/City of Naples	TBD
12	**3rd Ave S:** 9th St S - Goodlette-Frank Rd	0.23 miles	Long-term	$3,664,000	City of Naples	TBD
13	**4th Ave N:** Gulf Shore Blvd - 6th St N	0.43 miles	Long-term	$6,013,000	City of Naples	TBD
14	**7th Ave N:** 8th St N - Goodlette-Frank Rd	0.42 miles	Long-term	$6,427,000	City of Naples	TBD
15	**9th St/US 41:** 7th Ave N - 14th Ave N	0.52 miles	Long-term	$12,101,000	FDOT	TBD
16	**10th St:** Central Ave - 6th Ave N	0.46 miles	Long-term	$7,079,000*	City of Naples	TBD

3.2 Project Pages

For each project listed in the summary table above, a project page, or a one-page snapshot of each project, was created to aid in the implementation of this study's various recommendations. The project pages contain important information and key details about each project including: project location, project description and design considerations, modal emphasis, cost, implementation timeframe, responsible agency, funding source, and typical sections. Figure 30 is a key to assist implementing agencies in reading and interpreting the project pages that follow.



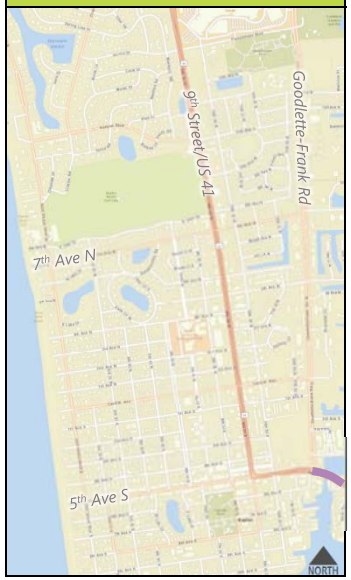
Project Page Key

1. Project Number (Referenced in Project Summary Table)
2. Facility and Extents
3. Map of Project Location (Denoted by Purple Line)
4. Project Description and Design Notes
5. Modal Emphasis
   - ● High Priority
   - ◐ Medium Priority
   - ○ Low Priority
6. Key Project Details: cost estimate, project length, timeframe, implementing agency, funding source.
7. Recommended Typical Section

Figure 30: Project Page Key

1 Gordon River Bridge (5th Ave S)

Project Location



Project Description

The Gordon River Bridge is the sole link between Downtown Naples and neighborhoods east of the Gordon River. Currently, the bridge is designed with wide travel lanes and shoulders and a relatively narrow path for pedestrians and bicyclists. Improving the safety and comfortability for all users of this facility is a priority for the City. The proposed design of this corridor entails narrowing the existing travel lanes, eliminating the shoulder, and moving the existing barrier to provide a 14' shared use path on each side of the bridge.

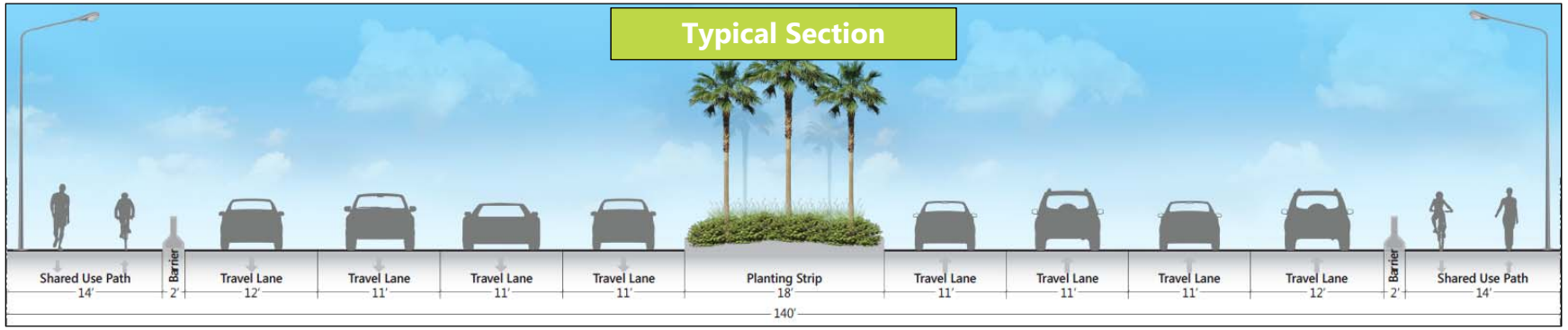
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	●

Key Project Details

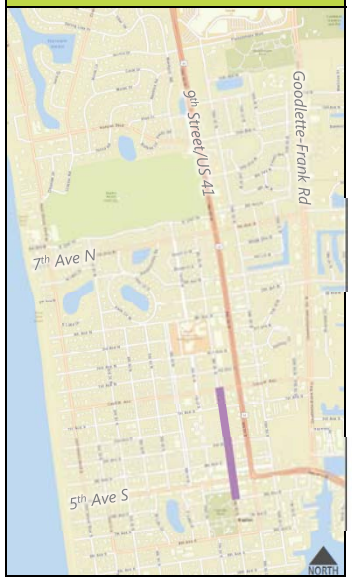
Cost Estimate	$2,567,000
Project Length	0.32 miles
Timeframe	Short-term
Implementing Agency	FDOT
Funding	TBD

Typical Section



2 8th St S (6th Ave S - Central Ave)

Project Location



Project Description

This corridor was designed with two key goals in mind: enhance the economic vitality of businesses along the corridor and provide a premium north-south spine in the study area for travel by bicycle. The selected design includes buffered bike lanes and 8′ sidewalks as well as on-street parking along the eastern edge of the roadway to serve the patrons of businesses along this corridor.

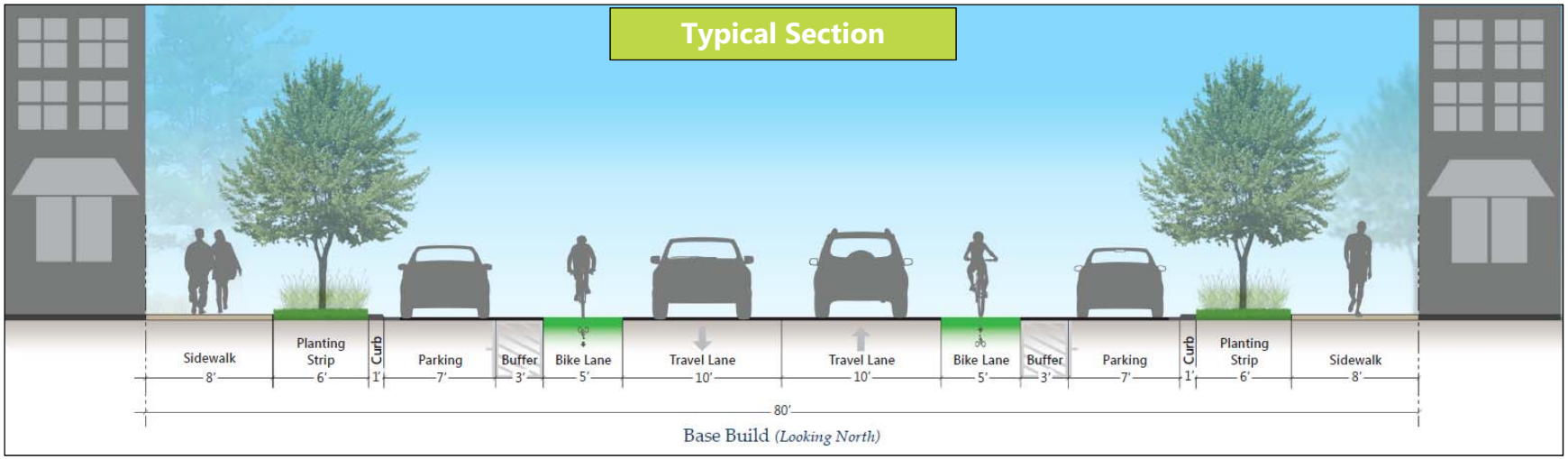
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	◐

Key Project Details

Cost Estimate	$7,396,000
Project Length	0.46 miles
Timeframe	Short-term
Implementing Agency	City of Naples
Funding	TBD

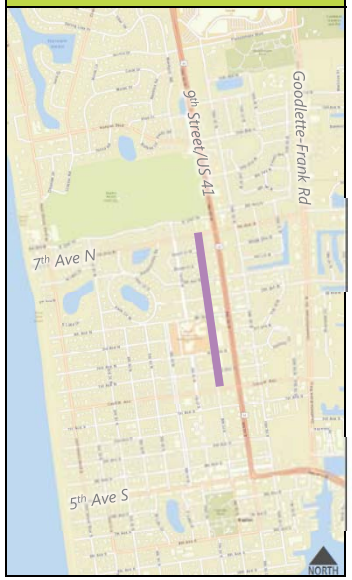
Typical Section



Base Build *(Looking North)*

3 8th St N (Central Ave - 7th Ave N)

Project Location



Project Description

This corridor was designed with two key goals in mind: enhance the economic vitality of businesses along the corridor and provide a premium north-south spine in the study area for travel by bicycle. The selected design includes bike lanes, as well as 8' sidewalks and on-street parking along the eastern edges of the roadway to serve the patrons of businesses along this corridor.

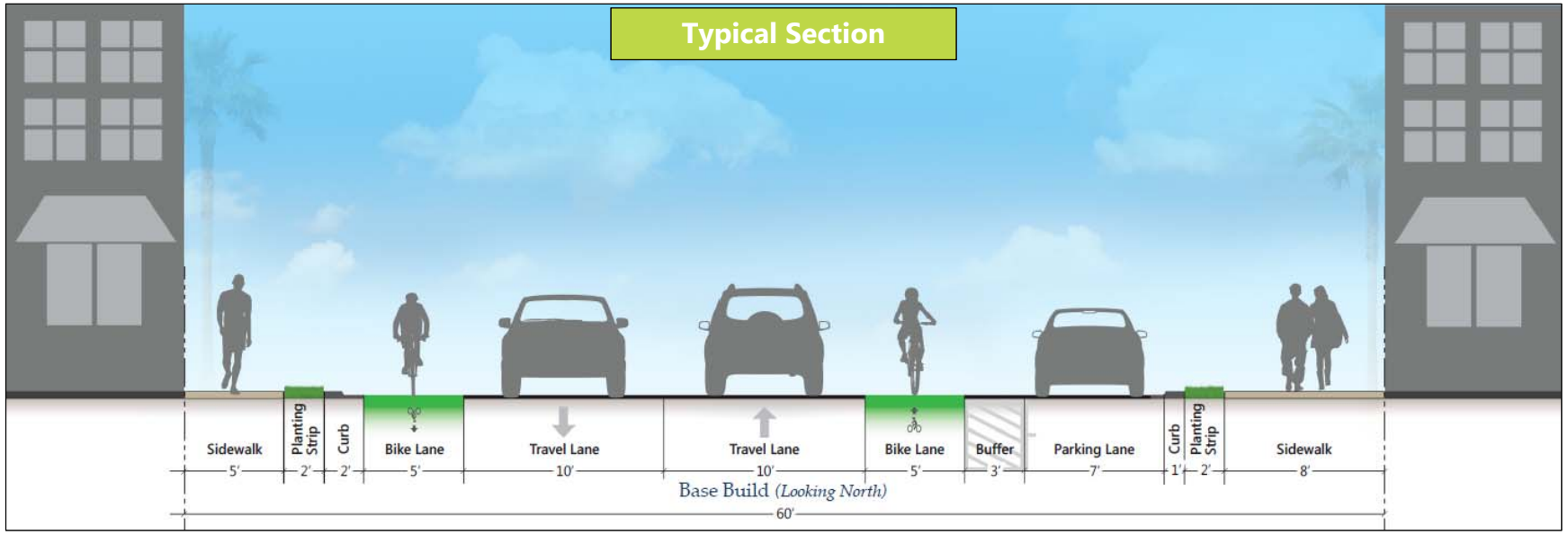
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	◐

Key Project Details

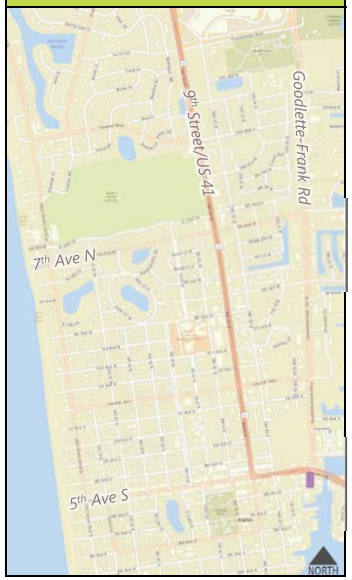
Cost Estimate	$9,422,000
Project Length	0.62 miles
Timeframe	Short-term
Implementing Agency	City of Naples
Funding	TBD

Typical Section



4 12th St S (6th Ave S - 5th Ave S)

Project Location



Project Description

This segment of roadway was designed to re-establish two-way operations. The design includes parallel, on-street parking along the eastern edge with a 9' sidewalk. The western edge of the road has 12-foot shared use path fronting the adjacent commercial properties to accommodate both bicyclists and pedestrians. This shared use path is a critical link between the Gordon River Bridge and the 6th Ave S shared use path that connect to 8th St and Downtown.

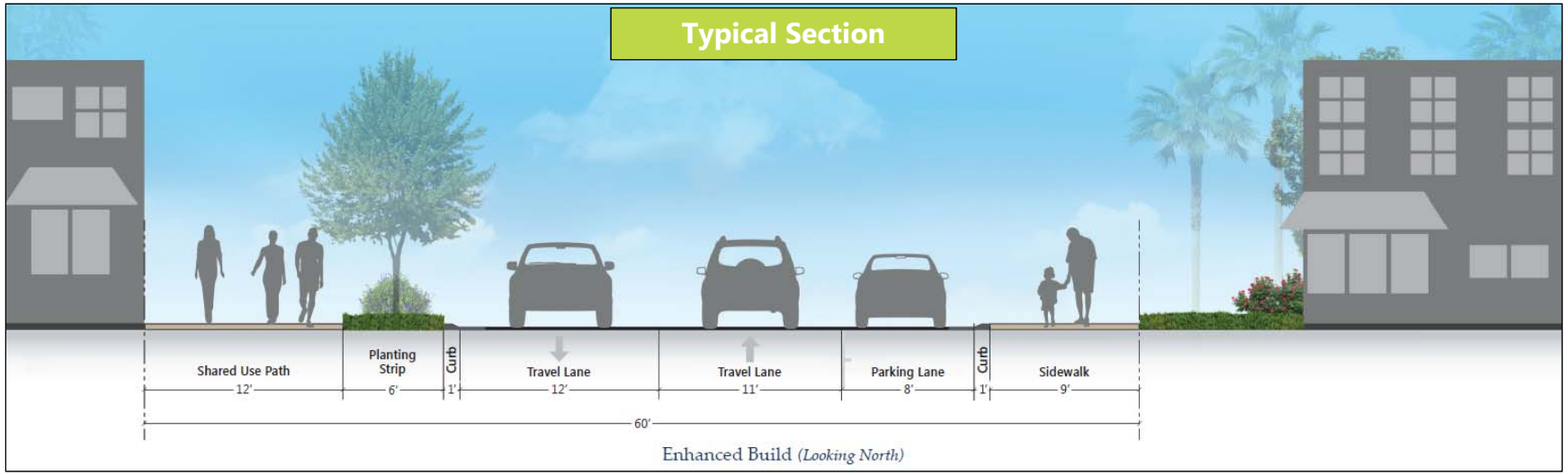
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	●

Key Project Details

Cost Estimate	$822,000
Project Length	0.06 miles
Timeframe	Short-term
Implementing Agency	City of Naples
Funding	TBD

Typical Section



Enhanced Build *(Looking North)*

5 Fill the Gaps

Project Description

This list of projects represents the more fundamental recommendations for improving mobility and connectivity in Downtown Naples; what the study team has termed "filling the gaps." These critical missing connections provide the most return on investment. These type projects include: reconstructing driveways and on-street parking to better define sidewalks, constructing new shared use paths, constructing new or widening existing sidewalks, and marking roadways with shared lane markings (sharrows).

Improvement Type	Length
Reconstruct to Better Define Sidewalk	0.09 miles
Shared Use Path	0.64 miles
8' Sidewalk	2.93 miles
5' Sidewalk	2.47 miles
Sharrow	1.14 miles

Key Project Details	
Cost Estimate	$1,689,000
Project Length	7.27 miles
Timeframe	Short-term
Implementing Agency	City of Naples
Funding	TBD

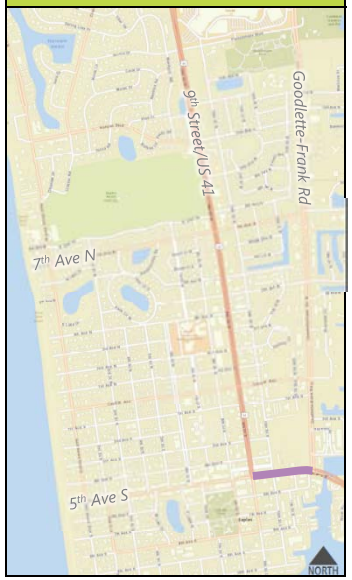
Details for each segment to follow on next page

Facility (Extents)	Side	Description	Length	Cost Estimate
10th Ave N (9th St N - 10th St N)	S	Construct new sidewalk (8' wide).	0.02 mi	$6,000
11th St S (3rd Ave S - 1st Ave S)	W	Provide sidewalk on proposed roadway extension (8' wide).	0.14 mi	$44,000
11th St S (3rd Ave S - 1st Ave S)	E	Provide sidewalk on proposed roadway extension (8' wide).	0.14 mi	$44,000
11th St S (5th Ave S - 3rd Ave S)	W	Provide sidewalk on proposed roadway extension (8' wide).	0.14 mi	$44,000
11th St S (5th Ave S - 3rd Ave S)	E	Provide sidewalk on proposed roadway extension (8' wide).	0.14 mi	$44,000
12th Ave N (9th St N - 10th St N)	N	Construct new 8' sidewalk.	0.07 mi	$23,000
12th St S (3rd Ave S - 1st Ave S)	W	Provide sidewalk on proposed roadway extension (8' wide).	0.13 mi	$42,000
12th St S (3rd Ave S - 1st Ave S)	E	Provide sidewalk on proposed roadway extension (8' wide).	0.13 mi	$42,000
12th St S (4th Ave S - 3rd Ave S)	W	Provide sidewalk on proposed roadway extension (8' wide).	0.06 mi	$20,000
12th St S (4th Ave S - 3rd Ave S)	E	Provide sidewalk on proposed roadway extension (8' wide).	0.06 mi	$20,000
1st Ave N (8th St N - 9th St N)	N	Construct new sidewalk (8' wide).	0.07 mi	$23,000
1st Ave S (10th St S - Goodlette-Frank Rd)	N	Reconstruct sidewalk to 8' wide.	0.18 mi	$59,000
1st Ave S (10th St S - Goodlette-Frank Rd)	S	Reconstruct sidewalk to 8' wide.	0.18 mi	$58,000
1st Ave S (6th St S - 9th St S)	S	Reconstruct sidewalk to 8' wide.	0.15 mi	$49,000
1st Ave S (6th St S - 9th St S)	N	Reconstruct sidewalk to 8' wide.	0.24 mi	$75,000
1st Ave S (9th St S - 10th St S)	S	Construct new 8' sidewalk.	0.01 mi	$3,000
2nd Ave N (8th St N - 9th St N)	S	Construct new sidewalk (8' wide).	0.07 mi	$23,000
2nd Ave S (10th St S - Goodlette-Frank Rd)	S	Provide sidewalk on proposed roadway extension (8' wide).	0.17 mi	$56,000
2nd Ave S (10th St S - Goodlette-Frank Rd)	N	Provide sidewalk on proposed roadway extension (8' wide).	0.18 mi	$56,000
4th Ave S (10th St S - Goodlette-Frank Rd)	S	Provide sidewalk on proposed roadway extension (8' wide).	0.16 mi	$51,000
4th Ave S (10th St S - Goodlette-Frank Rd)	N	Provide sidewalk on proposed roadway extension (8' wide).	0.16 mi	$51,000
6th Ave N (11th St N - Utility Easement)	N	Construct new 8' sidewalk.	0.01 mi	$4,000
6th St N (Central Ave - 1st Ave N)	E	Construct new sidewalk (8' wide).	0.06 mi	$19,000
8th Ave N (9th St N - 10th St N)	S	Construct new sidewalk (8' wide).	0.02 mi	$6,000
8th Ave N (9th St N - 10th St N)	N	Construct new sidewalk (8' wide).	0.02 mi	$6,000
Goodlette-Frank Rd (5th Ave S - 4th Ave S)	W	Construct 8' sidewalk.	0.03 mi	$10,000
Utility Easement (6th Ave N - 7th Ave N)		Construct new 8' sidewalk.	0.19 mi	$61,000
11th St N (5th Ave N - 6th Ave N)	W	Construct new 5' sidewalk.	0.03 mi	$6,000
12th Ave N (12th St N - Goodlette Frank Road)	N	Construct new 5' sidewalk.	0.16 mi	$32,000

Facility (Extents)	Side	Description	Length	Cost Estimate
12th Ave N (9th St N - Goodlette-Frank Rd)	S	Construct new 5' sidewalk.	0.42 mi	$83,000
12th St N (14th Ave N - 15th Ave N)	W	Construct new 5' sidewalk.	0.07 mi	$15,000
12th St N (14th Ave N - 14th Ave N)	W	Construct new 5' sidewalk.	0.03 mi	$6,000
14th Ave N (10th St N - 12th St)	N	Construct new 5' sidewalk.	0.16 mi	$32,000
14th Ave N (12th St N - Goodlette-Frank Rd)	S	Construct new 5' sidewalk.	0.18 mi	$35,000
15th Ave N (10th St N - 12th St N)	S	Construct new 5' sidewalk.	0.05 mi	$10,000
15th Ave N (10th St N - 12th St N)	N	Construct new 5' sidewalk.	0.07 mi	$14,000
15th Ave N (10th St N - 12th St N)	N	Construct new 5' sidewalk.	0.02 mi	$4,000
15th Ave N (10th St N - 12th St N)	S	Construct new 5' sidewalk.	0.02 mi	$4,000
2nd Ave N (6th St N - 7th St N)	S	Construct new sidewalk (5' wide).	0.04 mi	$9,000
4th St S (1st Ave S - Central Ave)	W	Construct new 5' sidewalk.	0.06 mi	$12,000
5th St S (2nd Ave S - 1st Ave S)	E	Construct new 5' sidewalk	0.03 mi	$6,000
5th St S (3 ½ Ave S - 3rd Ave S)	E	Construct new 5' sidewalk	0.03 mi	$6,000
5th St S (3rd Ave S - 2nd Ave S)	E	Construct new 5' sidewalk	0.04 mi	$8,000
6th St N (1st Ave N - 2nd Ave N)	E	Construct new sidewalk (5' wide).	0.06 mi	$12,000
6th St N (Central Ave - 4th Ave N)	W	Construct new sidewalk (5' wide).	0.29 mi	$58,000
7th Ave N (7th St N - 8th St N)	N	Construct new 5' sidewalk.	0.05 mi	$10,000
7th Ave N (Gulf Shore Blvd N - 7th St N)	S	Construct new 5' sidewalk.	0.60 mi	$120,000
Golf Dr (7th St N - 8th St N)	S	Construct new 5' sidewalk.	0.06 mi	$13,000
10th St N (6th Ave S - Central Ave)	W	Mark with sharrow.	0.37 mi	$10,000
10th St N (6th Ave S - Central Ave)	E	Mark with sharrow.	0.37 mi	$10,000
10th St N (6th Ave N - 7th Ave N)	W	Mark with sharrow.	0.20 mi	$5,000
10th St N (6th Ave N - 7th Ave N)	E	Mark with sharrow.	0.20 mi	$5,000
12th St Ext. (1st Ave N - 3rd Ave N)		Construct new off-road shared use path (10' wide).	0.12 mi	$42,000
3rd Ave N Ext. (12th St Ext. - Goodlette-Frank Rd)		Construct new off-road shared use path (10' wide).	0.06 mi	$21,000
Fleischmann Blvd (9th St N - Goodlette-Frank Rd)	S	Construct new SUP (10' wide).	0.46 mi	$162,000
10th Ave N (9th St N - 10th St N)	S	Construct new sidewalk (8' wide).	0.02 mi	$6,000
11th St S (3rd Ave S - 1st Ave S)	W	Provide sidewalk on proposed roadway extension (8' wide).	0.14 mi	$44,000
11th St S (3rd Ave S - 1st Ave S)	E	Provide sidewalk on proposed roadway extension (8' wide).	0.14 mi	$44,000
TOTAL				$1,689,000

6 5th Ave S/US 41 (Four Corners - Goodlette-Frank Rd)

Project Location



Project Description

A chief goal of the City is to extend the success and economic vibrancy of the 5th Ave S shopping district to adjacent areas in Downtown. Part of this strategy includes a reduction in the number of lanes from six to four. In the place of the eliminated travel lanes, this design incorporates on-street parking on both sides of the roadway as well as 10' foot sidewalks with planting strips. This corridor improvement includes reconfiguration of the 5th Ave S/US 41 & Goodlette-Frank Rd intersection. This intersection should include wayfinding signage directing pedestrians to the crossing under the Gordon River Bridge.

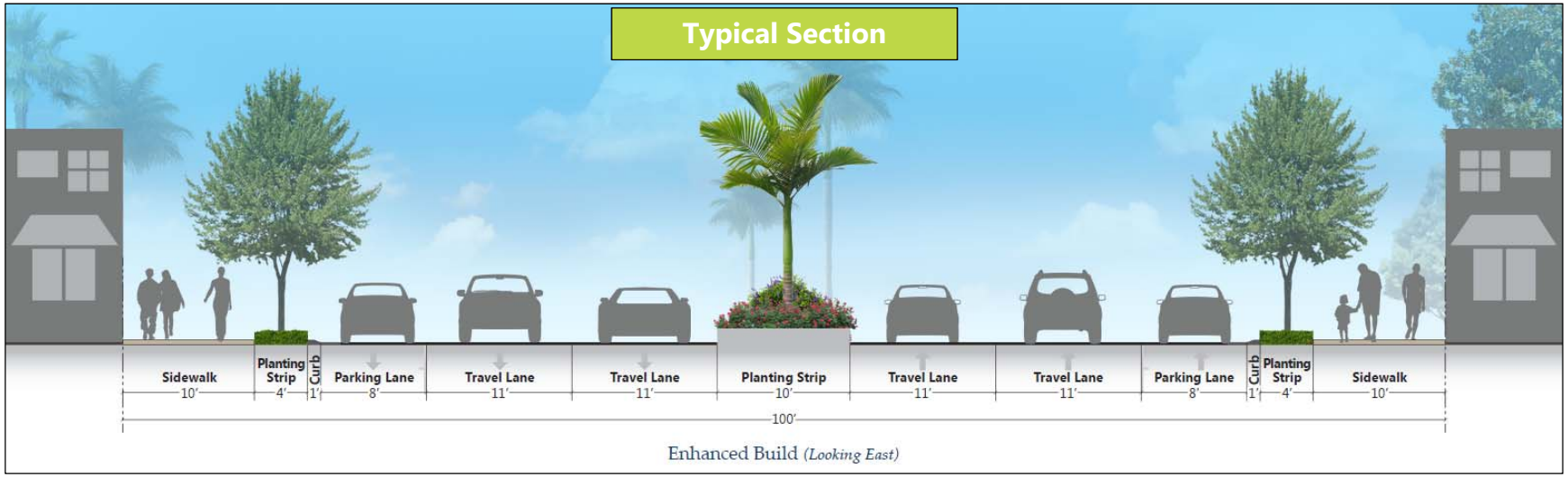
Modal Emphasis

Pedestrian	●
Bicycle	○
Auto	◐

Key Project Details

Cost Estimate	$5,666,000
Project Length	0.23 miles
Timeframe	Mid-term
Implementing Agency	FDOT
Funding	TBD

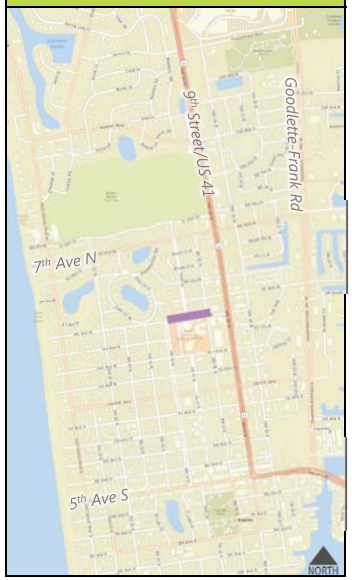
Typical Section



Enhanced Build *(Looking East)*

7 4th Ave N (6th St N – 8th St N)

Project Location



Project Description

The design of this facility provides a comfortable east-west connection for bicyclists to travel between the beach and Downtown Naples. The design incorporates buffered bike lanes with 8' sidewalks along the commercial properties on each side of the corridor. The number of vehicular travel lanes is reduced from four lanes to three lanes (one lane in each direction with a center turn lane).

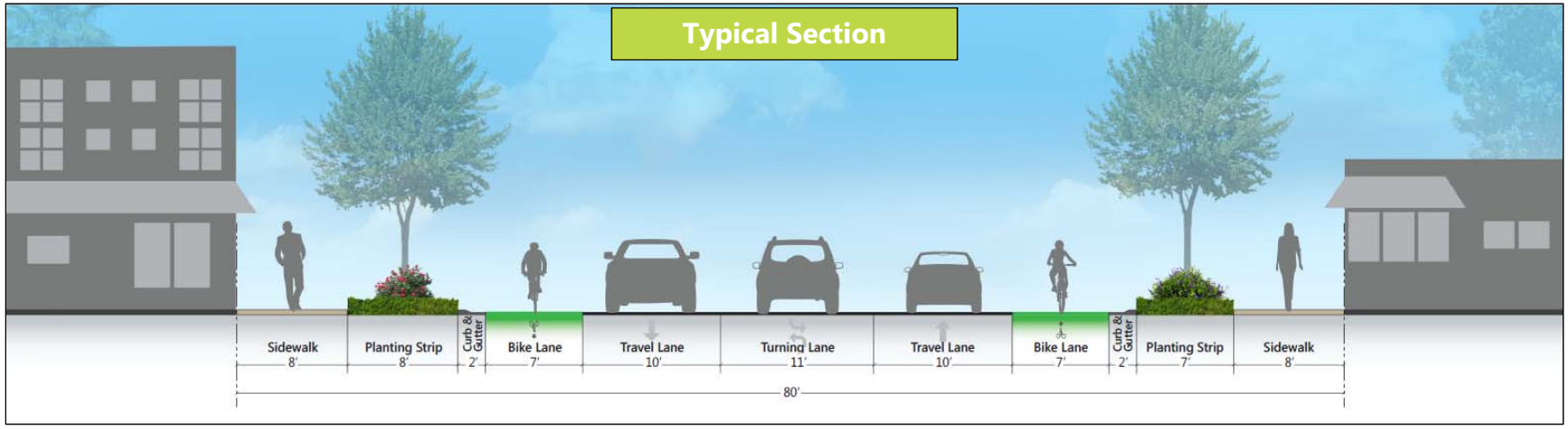
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	◐

Key Project Details

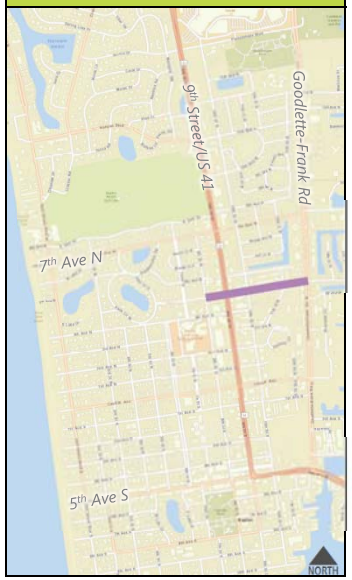
Cost Estimate	$3,732,000
Project Length	0.17 miles
Timeframe	Mid-term
Implementing Agency	City of Naples
Funding	TBD

Typical Section



8 5th Ave N (8th St N - Goodlette-Frank Rd)

Project Location



Project Description

This facility was redesigned to incorporate a shared use path on the southern edge of the corridor to provide a connection between the 8th St north-south spine and the existing path along the western edge of Goodlette-Frank Rd. On-street parking is retained along the corridor for the benefit of adjacent businesses. 5' sidewalks with a 3' planting strip for the existing utility poles are retained on the north side of the corridor.

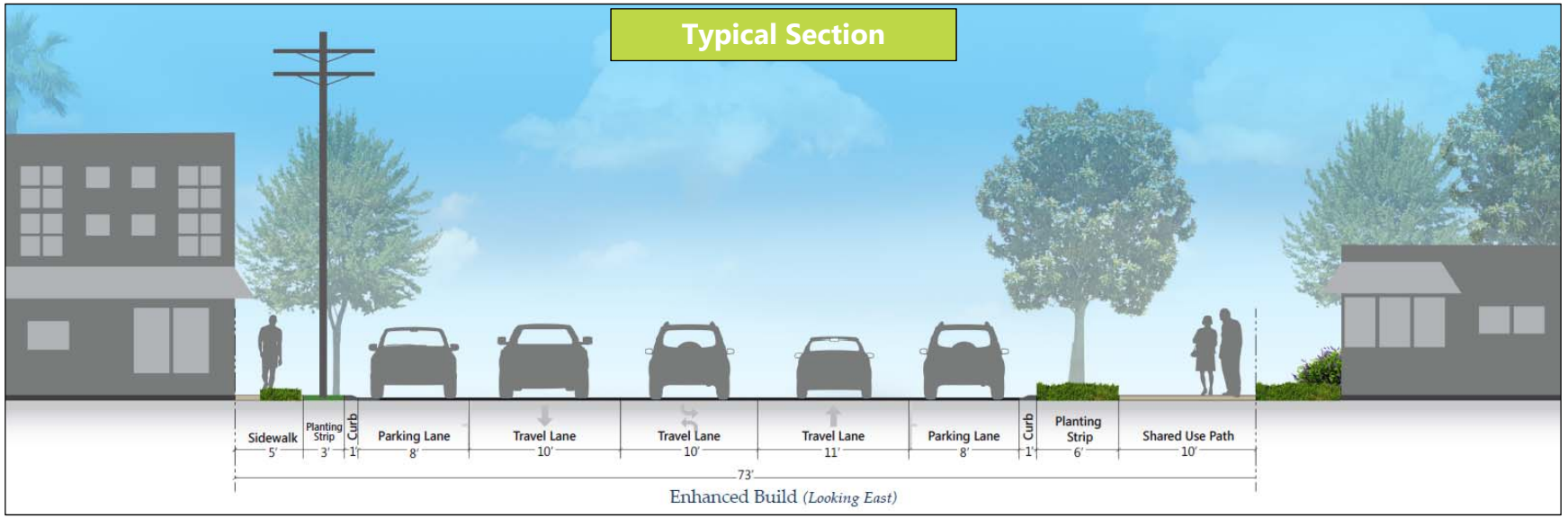
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	●

Key Project Details

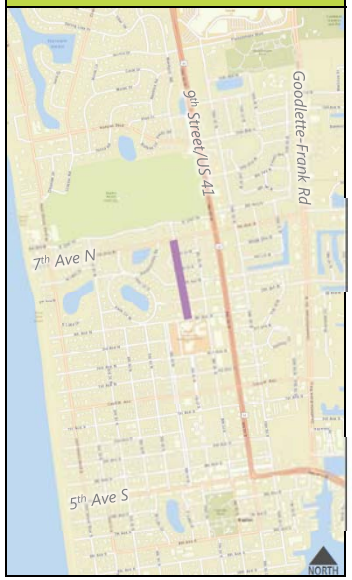
Cost Estimate	$6,821,000
Project Length	0.39 miles
Timeframe	Mid-term
Implementing Agency	City of Naples
Funding	TBD

Typical Section



9 7th St N (4th Ave N - 7th Ave N)

Project Location



Project Description

The design along this corridor takes advantage of the existing width of the roadway (20′ in each direction) to cost-effectively create a space for pedestrians. The design of this roadway calls for restriping the existing roadway to accommodate a 6′ paved shoulder separated from the 11′ travel lanes by a 3′ striped buffer.

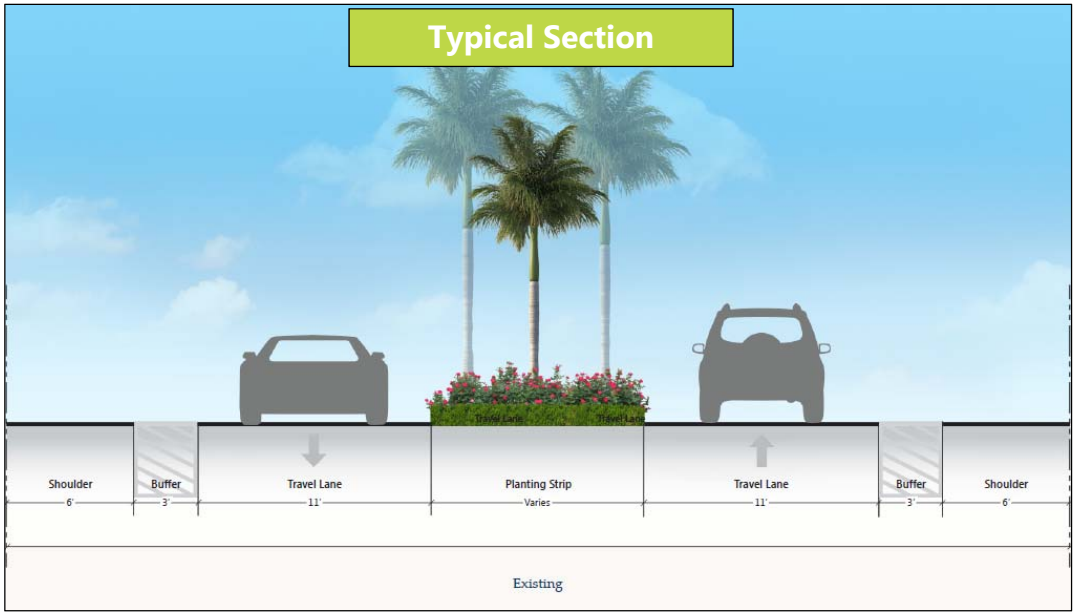
Modal Emphasis

Pedestrian	◐
Bicycle	◐
Auto	●

Key Project Details

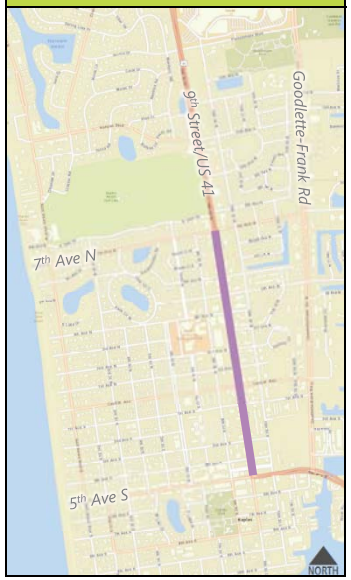
Cost Estimate	$954,000
Project Length	0.32 miles
Timeframe	Mid-term
Implementing Agency	City of Naples
Funding	TBD

Typical Section



10 9th St/US 41 (Four Corners - 7th Ave N)

Project Location



Project Description

A chief goal of the City is to extend the success and economic vibrancy of the 5th Ave S shopping district to adjacent areas in Downtown. Part of this strategy includes a road diet, a reduction in the number of lanes from six to four, along this segment of roadway. In the place of the eliminated travel lanes, this design incorporates on-street parking on both sides of the roadway as well as 10' foot sidewalks with planting strips. The enhanced pedestrian realm and additional on-street parking are anticipated to support businesses and redevelopment opportunities in this area.

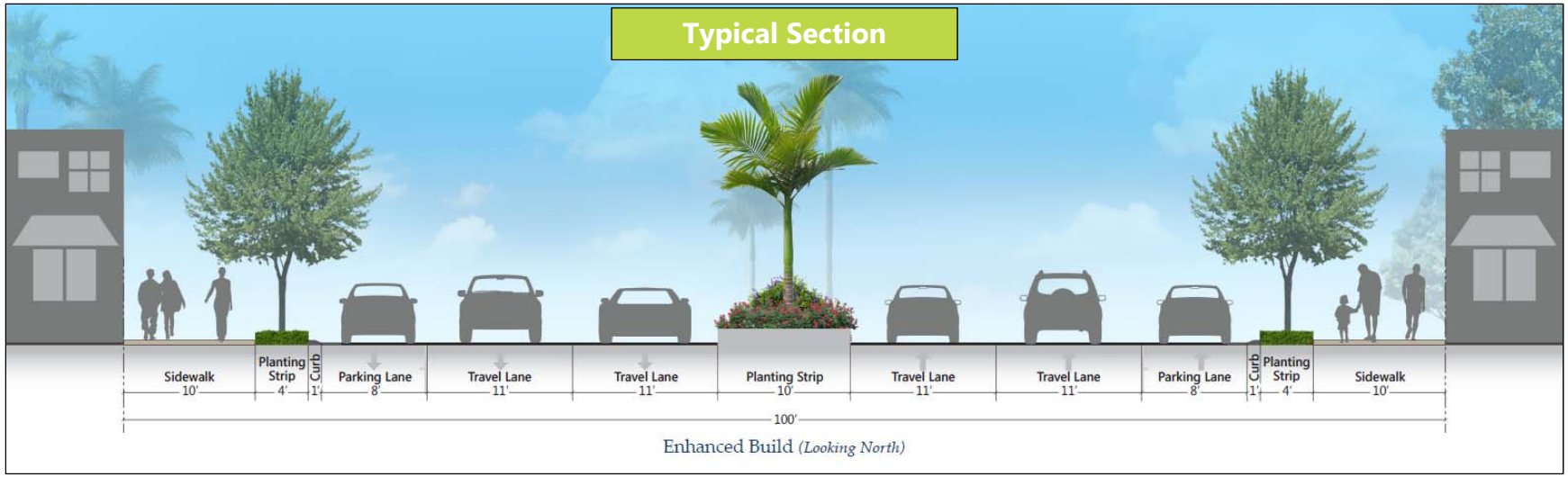
Modal Emphasis

Pedestrian	●
Bicycle	○
Auto	◐

Key Project Details

Cost Estimate	$25,511,000
Project Length	1.00 miles
Timeframe	Mid-term
Implementing Agency	FDOT
Funding	TBD

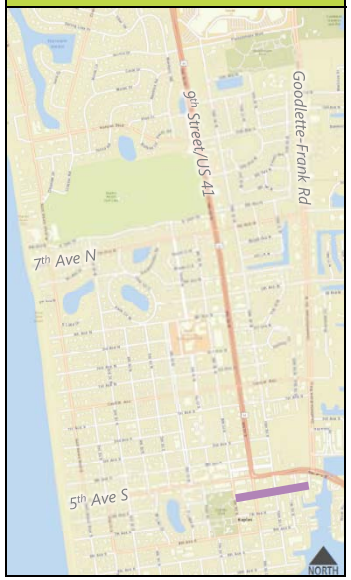
Typical Section



Enhanced Build *(Looking North)*

11 6th Ave S (8th St S - 12th St S)

Project Location



Project Description

This corridor is an alternative east-west corridor that will be especially critical for bicyclists traveling between the Gordon River Bridge and Downtown. As such, this connection provides a wide 12' shared use path on the northern edge of the roadway. This connection allows these users to avoid traveling on the heavily traveled 5th Ave S/US 41 corridor and connects with the north-south bicycle network spine, the 8th St buffered bike lanes. On-street parking is retained along the southern edge of the corridor for the benefit of adjacent businesses.

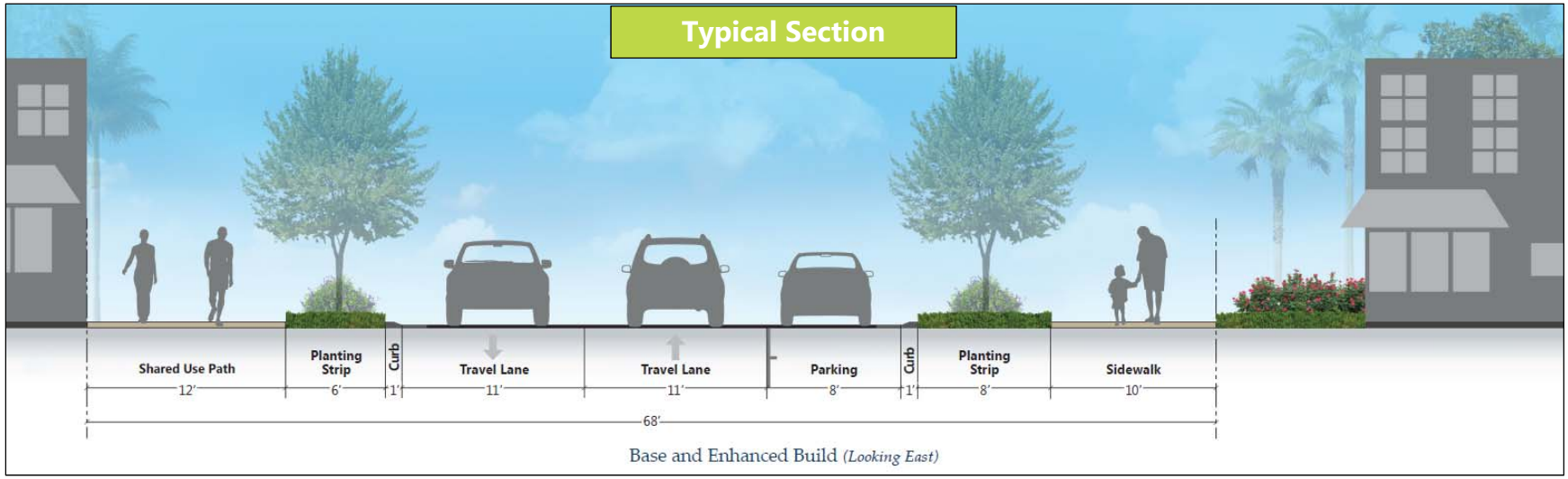
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	●

Key Project Details

Cost Estimate	$5,110,000
Project Length	0.30 miles
Timeframe	Long-term
Implementing Agency	FDOT/City of Naples
Funding	TBD

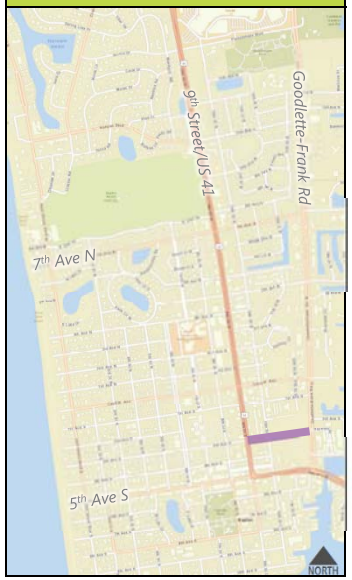
Typical Section



Base and Enhanced Build *(Looking East)*

12 3rd Ave S (9th St S - Goodlette-Frank Rd)

Project Location



Project Description

The design of this roadway closely follows the existing design on 3rd Ave S between 10th St S and Goodlette-Frank Road with on-street parking, a buffered bike lane, and 8' wide sidewalks on each side of the roadway. The primary motivation for the redesign of this segment is to bring the design of the bike lanes through the roundabouts up to current practices. The recommended section also calls for a 5' wide planting strip.

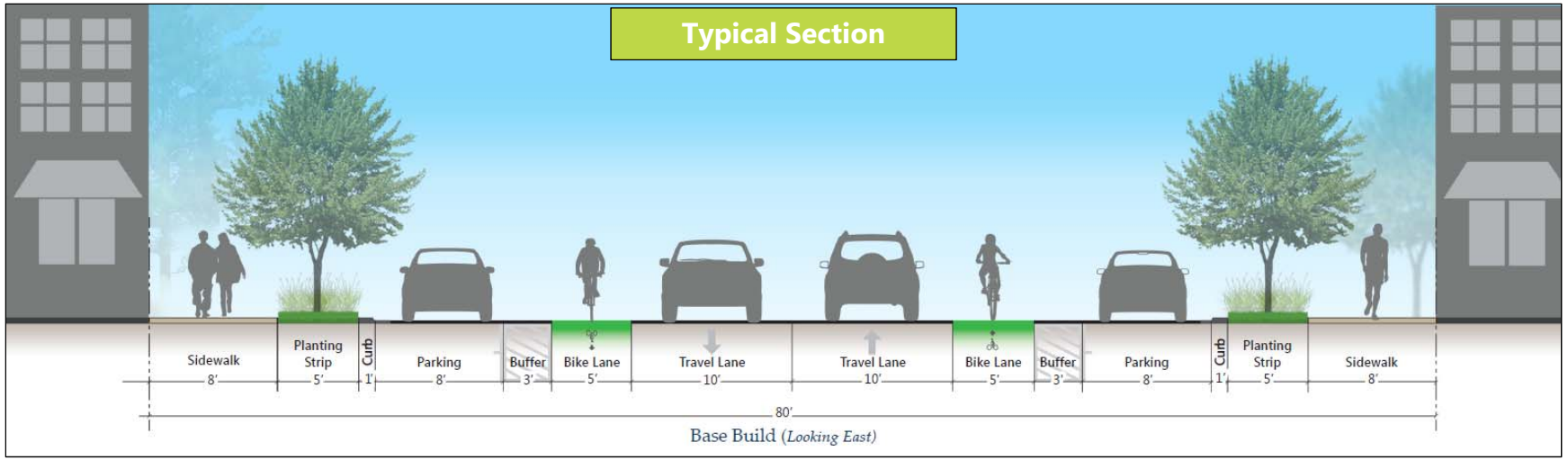
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	●

Key Project Details

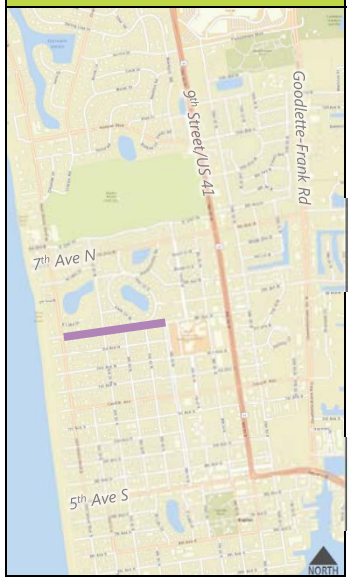
Cost Estimate	$3,664,000
Project Length	0.23 miles
Timeframe	Long-term
Implementing Agency	City of Naples
Funding	TBD

Typical Section



13 4th Ave N (Gulf Shore Blvd - 6th St N)

Project Location



Project Description

The design of this facility provides a comfortable east-west connection for bicyclists to travel between the beach and Downtown Naples. The design incorporates buffered bike lanes with 5' sidewalks along the residential properties on each side of the corridor. The same number of travel lanes are maintained for vehicles.

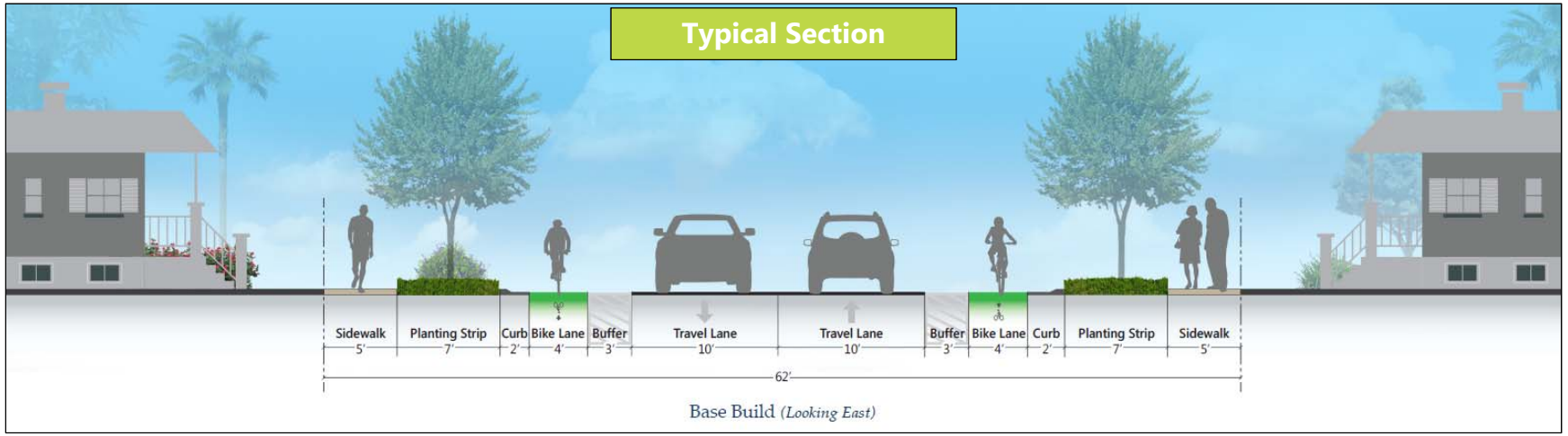
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	●

Key Project Details

Cost Estimate	$6,013,000
Project Length	0.43 miles
Timeframe	Long-term
Implementing Agency	City of Naples
Funding	TBD

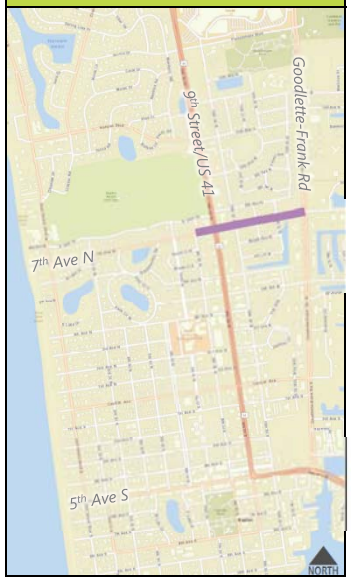
Typical Section



Base Build *(Looking East)*

14 7th Ave N (8th St N - Goodlette-Frank Rd)

Project Location



Project Description

This design incorporates a shared use path on the south side of the roadway to connect the 8th Street buffered bike lanes (south of 7th Ave N) to the shared use path on 9th Street (north of 7th Ave N) and further east to the existing path along the western edge of Goodlette-Frank Rd.

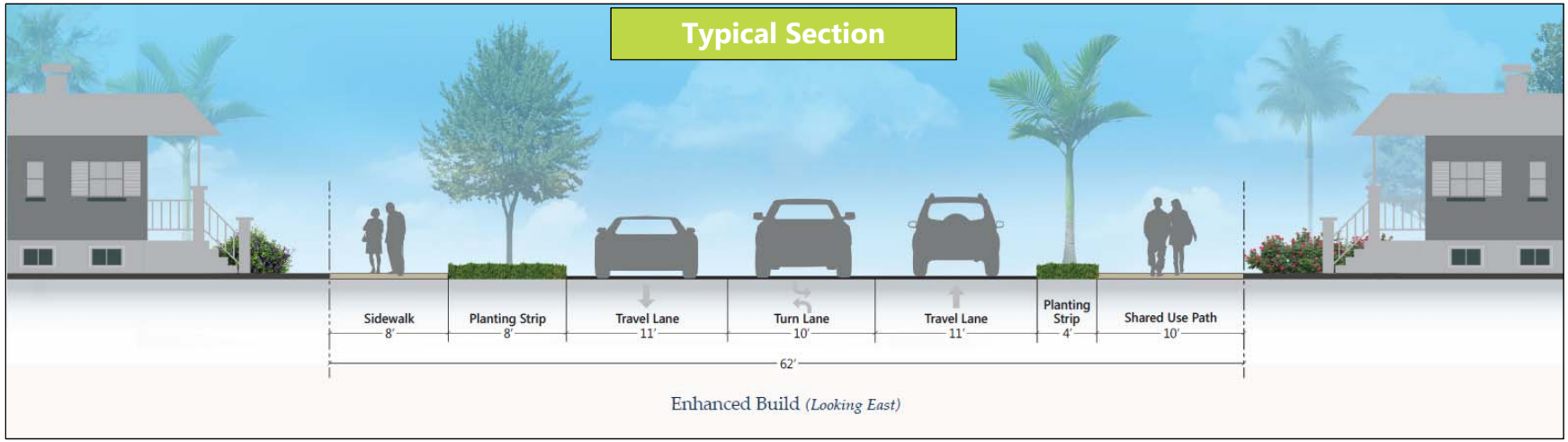
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	◐

Key Project Details

Cost Estimate	$6,427,000
Project Length	0.42 miles
Timeframe	Long-term
Implementing Agency	City of Naples
Funding	TBD

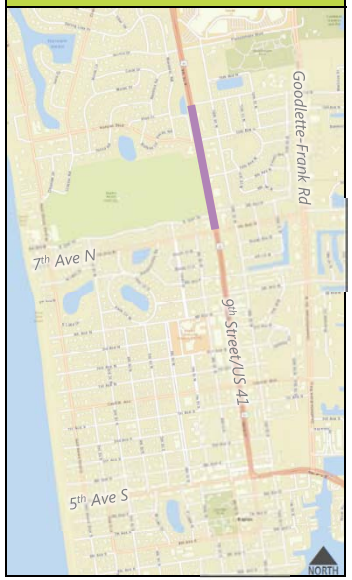
Typical Section



Enhanced Build *(Looking East)*

15 9th St/US 41 (7th Ave N - 14th Ave N)

Project Location



Project Description

The redesign of this roadway aimed to enhance the facilities for bicyclists and pedestrians by making better use of the available right-of-way. Existing medians were narrowed to a width of 11′ in order to fit a shared use path on the western edge of the roadway and provide a 3′ planning strip along the eastern edge of the roadway. The shared use path is the primary north-south link for pedestrians and bicyclists travelling between downtown and locations to the north.

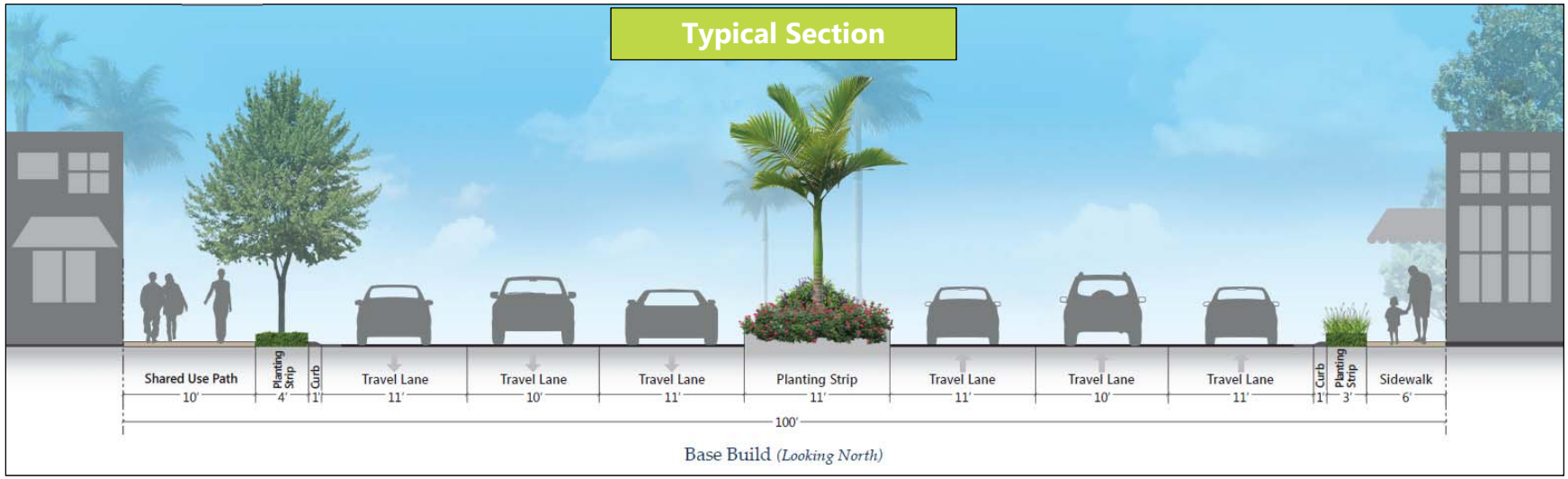
Modal Emphasis

Pedestrian	●
Bicycle	●
Auto	●

Key Project Details

Cost Estimate	$12,101,000
Project Length	0.52 miles
Timeframe	Long-term
Implementing Agency	FDOT
Funding	TBD

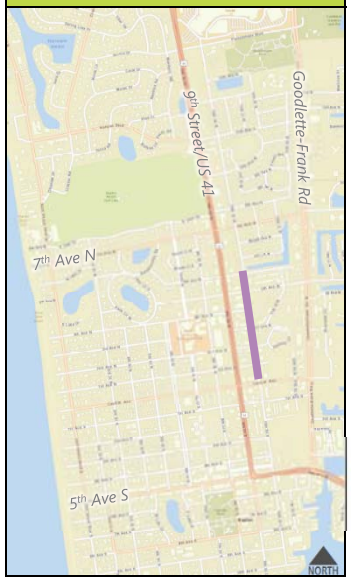
Typical Section



Base Build *(Looking North)*

16 10th St N (Central Ave - 6th Ave N)

Project Location



Project Description

This corridor was reconfigured to better define the pedestrian and parking zones, particularly in front of the businesses along the western edge of the corridor. In the design, parallel, on-street parking is provided on both sides of the roadway, a 9-foot wide sidewalk and 5-foot wide planting strip is recommended for the western edge of the roadway, and the sidewalk along the eastern edge of the road remains 6 feet at the back of the curb. Due to the relatively low volumes and speeds of traffic in this corridor, "share the road" markings will be placed in the travel lanes for bicyclists. The signalized intersection at 10th St N & 5th Ave N will be replaced with a roundabout.

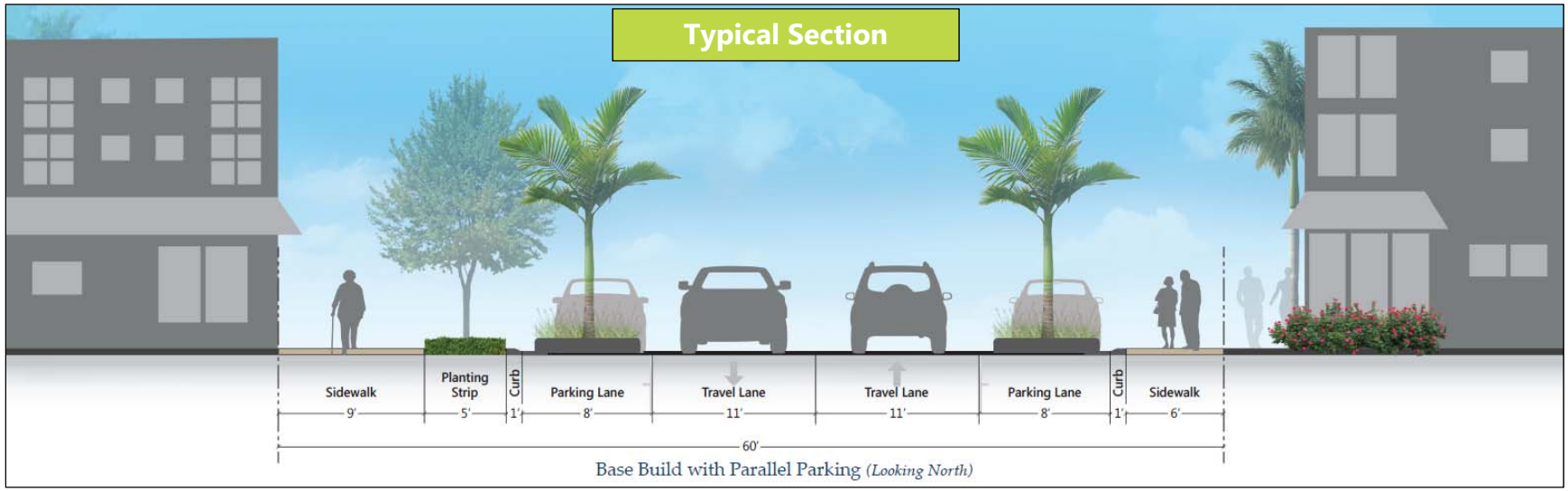
Modal Emphasis

Pedestrian	●
Bicycle	◐
Auto	◐

Key Project Details

Cost Estimate	$7,079,000*
Project Length	0.46 miles
Timeframe	Long-term
Implementing Agency	City of Naples
Funding	TBD

Typical Section



Base Build with Parallel Parking *(Looking North)*

* Cost estimate assumes full reconstruction of the roadway. Potential savings may be realized if only the western half of the facility is reconstructed, or if private development participates in the facility reconstruction in accordance with land development regulations. The cost estimate does not account for construction of the roundabout at 10th St N & 5th Ave N.

Appendices

Appendix A: Pedestrian and Bicycle Level of Service Calculations

Pedestrian and Bicycle Level of Service Calculations: Existing

Directional Segments					Inputs															Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	PLOS Score	PLOS	BLOS Score	BLOS
6th Ave S	8th St S	12th St S	North	1589	11	0	0	0	100%	17	8	Y	Y	Y	136	1	30.0	2	4	**0.33**	**A**	**3.97**	**D**
6th Ave S	8th St S	12th St S	South	1649	11	0	0	17	100%	0	8	Y	Y	Y	205	1	30.0	2	4	**1.05**	**A**	**3.86**	**D**
5th Ave S	9th St S	Goodlette-Frank Rd	North	1234	10	0	0	0	0%	0	5	Y	Y	Y	1478	3	30.0	2	4	**3.25**	**C**	**5.24**	**F**
5th Ave S	9th St S	Goodlette-Frank Rd	South	1155	10	0	0	0	0%	0	7	Y	Y	Y	1355	3	30.0	2	4	**2.99**	**C**	**5.20**	**F**
5th Ave S Bridge			North	1682	18	0	0	0	0%	0	5	Y	Y	Y	2157	4	35.0	2	4	**3.22**	**C**	**4.59**	**E**
5th Ave S Bridge			South	1705	18	0	0	0	0%	0	5	Y	Y	Y	3019	4	35.0	2	4	**3.71**	**D**	**4.76**	**E**
3rd Ave S	10th St S	Goodlette-Frank Rd	North	861	11	0	0	7	100%	11	5	Y	Y	Y	95	1	30.0	2	4	**0.45**	**A**	**3.79**	**D**
3rd Ave S	10th St S	Goodlette-Frank Rd	South	860	11	0	0	7	100%	14	5	Y	Y	Y	124	1	30.0	2	4	**0.39**	**A**	**3.93**	**D**
3rd Ave S	Gulf Shore Blvd	9th St S	North	3614	11	0	7	7	100%	7	8	Y	Y	Y	375	1	30.0	2	4	**1.12**	**A**	**3.77**	**D**
3rd Ave S	Gulf Shore Blvd	9th St S	South	3614	11	0	7	0	0%	7	8	Y	Y	Y	380	1	30.0	2	4	**1.78**	**A**	**1.37**	**A**
3rd Ave S	9th St S	10th St S	North	376	12	0	0	7	100%	10	8	Y	Y	Y	101	1	30.0	2	4	**0.45**	**A**	**3.82**	**D**
3rd Ave S	9th St S	10th St S	South	376	12	0	0	7	100%	6	8	Y	Y	Y	127	1	30.0	2	4	**0.69**	**A**	**3.94**	**D**
1st Ave S	9th St S	10th St S	North	344	12	0	0	17	100%	0	0	Y	Y	Y	85	1	30.0	2	4	**0.90**	**A**	**3.33**	**C**
Central Ave	Goodlette-Frank Rd	Riverside Cir	South	428	17	0	0	0	0%	12	10	Y	Y	Y	15	1	30.0	2	4	**0.65**	**A**	**1.41**	**A**
Central Ave	Goodlette-Frank Rd	Riverside Cir	North	421	17	0	0	0	0%	0	0	Y	Y	Y	29	1	30.0	2	4	**2.24**	**B**	**1.74**	**A**
4th Ave N	Gulf Shore Blvd	6th St N	North	2243	10	0	0	0	0%	0	0	Y	Y	Y	182	1	30.0	2	4	**3.99**	**D**	**3.62**	**D**
4th Ave N	Gulf Shore Blvd	6th St N	South	2222	10	0	0	0	0%	0	0	Y	Y	Y	283	1	30.0	2	4	**4.22**	**D**	**3.84**	**D**
4th Ave N	6th St N	9th St N	North	1312	11	0	0	0	0%	8	8	Y	Y	Y	182	2	30.0	2	4	**1.19**	**A**	**3.87**	**D**
4th Ave N	6th St N	9th St N	South	1273	11	0	0	7	100%	0	6	Y	Y	Y	283	2	30.0	2	4	**1.12**	**A**	**4.70**	**E**
5th Ave N	9th St N	Goodlette-Frank Rd	North	1689	12	0	0	17	100%	2	8	Y	Y	Y	188	1	30.0	2	4	**0.89**	**A**	**3.73**	**D**
5th Ave N	9th St N	Goodlette-Frank Rd	South	1692	12	0	0	17	100%	2	8	Y	Y	Y	274	1	30.0	2	4	**1.08**	**A**	**3.92**	**D**
5th Ave N	8th St N	9th St N	North	382	12	0	0	17	100%	2	8	Y	Y	Y	34	1	30.0	2	4	**0.54**	**A**	**2.87**	**C**
5th Ave N	8th St N	9th St N	South	383	12	0	0	17	100%	2	8	Y	Y	Y	12	1	30.0	2	4	**0.49**	**A**	**2.34**	**B**
6th Ave N	9th St N	10th St N	South	122	11	0	0	17	100%	0	0	Y	Y	Y	100	1	30.0	2	4	**0.97**	**A**	**3.50**	**C**
7th Ave N	8th St N	9th St N	North	381	11	0	0	0	0%	10	5	Y	Y	Y	178	1	25.0	2	4	**1.22**	**A**	**3.28**	**C**
7th Ave N	8th St N	9th St N	South	381	11	0	0	0	0%	0	8	Y	Y	Y	534	1	25.0	2	4	**2.99**	**C**	**3.84**	**D**
7th Ave N	9th St N	10th St N	North	381	11	0	0	0	0%	12	5	Y	Y	Y	215	2	25.0	2	4	**0.91**	**A**	**3.73**	**D**
7th Ave N	9th St N	10th St N	South	381	11	0	0	0	0%	8	8	Y	Y	Y	283	1	25.0	2	4	**1.52**	**A**	**3.51**	**D**
7th Ave N	10th St N	Goodlette-Frank Rd	North	1451	12	0	0	0	0%	0	0	Y	Y	Y	174	1	25.0	2	4	**3.64**	**D**	**3.15**	**C**
7th Ave N	10th St N	Goodlette-Frank Rd	South	1438	12	0	5	0	0%	0	0	Y	Y	Y	310	1	25.0	2	4	**3.36**	**C**	**1.75**	**A**
7th St N	4th Ave N	7th Ave N	East	1684	15	0	5	0	0%	0	0	Y	Y	Y	100	1	25.0	2	4	**2.25**	**B**	**0.47**	**A**
7th St N	4th Ave N	7th Ave N	West	1684	15	0	5	0	0%	0	0	Y	Y	Y	100	1	25.0	2	4	**2.25**	**B**	**0.47**	**A**
7th St N	7th Ave N	Golf Dr	East	276	12	0	0	0	0%	0	0	Y	Y	Y	100	1	25.0	2	4	**2.98**	**C**	**2.87**	**C**
7th St N	7th Ave N	Golf Dr	West	298	12	0	0	0	0%	0	0	Y	Y	Y	100	1	25.0	2	4	**2.98**	**C**	**2.87**	**C**
8th St S	6th Ave S	5th Ave S	East	321	11	0	0	7	0%	3	8	Y	Y	Y	252	1	30.0	2	4	**1.83**	**A**	**1.16**	**A**
8th St S	6th Ave S	5th Ave S	West	326	11	0	0	7	0%	3	8	Y	Y	Y	271	1	30.0	2	4	**1.87**	**A**	**1.20**	**A**
8th St S	5th Ave S	Central Ave	East	1929	14	0	0	7	100%	9	8	Y	Y	Y	259	1	30.0	2	4	**0.83**	**A**	**4.29**	**E**
8th St S	5th Ave S	Central Ave	West	1928	14	0	0	7	100%	9	8	Y	Y	Y	143	1	30.0	2	4	**0.57**	**A**	**3.99**	**D**
8th St N	Central Ave	4th Ave N	West	1538	12	0	0	0	0%	9	5	Y	Y	Y	161	1	30.0	2	4	**1.35**	**A**	**3.34**	**C**
8th St N	Central Ave	4th Ave N	East	1534	12	0	0	0	0%	0	6	Y	Y	Y	380	2	30.0	2	4	**2.40**	**B**	**4.13**	**D**
8th St N	4th Ave N	5th Ave N	West	371	12	0	0	0	0%	9	5	Y	Y	Y	139	1	30.0	2	4	**1.30**	**A**	**3.26**	**C**
8th St N	4th Ave N	5th Ave N	East	404	12	0	0	0	0%	0	6	Y	Y	Y	230	2	30.0	2	4	**2.23**	**B**	**3.87**	**D**
8th St N	5th Ave N	7th Ave N	East	1299	12	0	0	7	100%	0	6	Y	Y	Y	287	1	30.0	2	4	**1.43**	**A**	**4.35**	**E**

Pedestrian and Bicycle Level of Service Calculations: Existing

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	**PLOS Score**	**PLOS**	**BLOS Score**	**BLOS**
8th St N	5th Ave N	7th Ave N	West	1327	12	0	0	0	0%	0	0	Y	Y	Y	67	1	30.0	2	4	**2.88**	**C**	**2.89**	**C**
9th St S	6th Ave S	5th Ave S	East	301	11	0	0	0	0%	0	8	Y	Y	Y	446	1	30.0	2	4	**2.90**	**C**	**3.97**	**D**
9th St S	6th Ave S	5th Ave S	West	321	11	0	0	7	100%	0	6	Y	Y	Y	248	1	30.0	2	4	**1.36**	**A**	**4.28**	**E**
9th St	5th Ave S	5th Ave N	East	3961	11	0	0	7	100%	0	6	Y	Y	Y	1252	2	30.0	5	4	**2.22**	**B**	**6.02**	**F**
9th St	5th Ave S	5th Ave N	West	3984	11	0	0	7	100%	0	6	Y	Y	Y	1368	2	30.0	5	4	**2.35**	**B**	**6.07**	**F**
9th St N	5th Ave N	7th Ave N	East	1334	11	0	0	0	0%	0	6	Y	Y	Y	1519	3	30.0	5	4	**3.15**	**C**	**5.72**	**F**
9th St N	5th Ave N	7th Ave N	West	1320	11	0	0	0	0%	0	6	Y	Y	Y	1458	3	40.0	5	4	**3.39**	**C**	**6.06**	**F**
9th St N	7th Ave N	14th Ave N	East	2736	11	0	0	0	0%	0	6	Y	Y	Y	1863	3	40.0	5	4	**3.69**	**D**	**6.18**	**F**
9th St N	7th Ave N	14th Ave N	West	2728	11	0	0	0	0%	0	6	Y	Y	Y	1523	3	40.0	5	4	**3.44**	**C**	**6.08**	**F**
9th St N	14th Ave N	Fleischmann Blvd	East	1059	11	0	0	0	0%	2	5	Y	Y	Y	1863	3	40.0	5	4	**3.45**	**C**	**6.18**	**F**
9th St N	14th Ave N	Fleischmann Blvd	West	1227	11	0	0	0	0%	45	5	Y	Y	Y	1523	3	40.0	5	4	**0.95**	**A**	**6.08**	**F**
10th St	5th Ave S	6th Ave N	East	4365	10	0	0	7	100%	0	6	Y	Y	Y	237	1	25.0	2	4	**1.24**	**A**	**4.03**	**D**
10th St	5th Ave S	6th Ave N	West	4365	10	0	0	17	100%	0	6	Y	Y	Y	246	1	25.0	2	4	**1.08**	**A**	**3.80**	**D**
12th St S	6th Ave S	5th Ave S	East	328	12	0	0	17	100%	0	5	Y	Y	Y	60	1	25.0	2	4	**0.66**	**A**	**2.93**	**C**
12th St S	6th Ave S	5th Ave S	West	264	12	0	0	0	100%	5	8	Y	Y	Y	60	1	25.0	2	4	**0.58**	**A**	**3.31**	**C**
12th St S	1st Ave S	Central Ave	East	73	12	0	0	17	100%	0	0	Y	Y	Y	100	1	25.0	2	4	**0.85**	**A**	**3.19**	**C**
Study Area Average																				**2.05**	**B**	**4.07**	**D**

Pedestrian and Bicycle Level of Service Calculations: No Build

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	**PLOS Score**	**PLOS**	**BLOS Score**	**BLOS**
6th Ave S	8th St S	12th St S	North	1589	11	0	0	0	100%	17	8	Y	Y	Y	282	1	30.0	2	4	**0.67**	**A**	**4.34**	**E**
6th Ave S	8th St S	12th St S	South	1649	11	0	0	17	100%	0	8	Y	Y	Y	389	1	30.0	2	4	**1.46**	**A**	**4.19**	**D**
5th Ave S	9th St S	Goodlette-Frank Rd	North	1234	10	0	0	0	0%	0	5	Y	Y	Y	1621	3	30.0	2	4	**3.36**	**C**	**5.29**	**F**
5th Ave S	9th St S	Goodlette-Frank Rd	South	1155	10	0	0	0	0%	0	7	Y	Y	Y	1557	3	30.0	2	4	**3.14**	**C**	**5.27**	**F**
5th Ave S Bridge			North	1682	18	0	0	0	0%	0	5	Y	Y	Y	2623	4	35.0	5	4	**3.48**	**C**	**5.34**	**F**
5th Ave S Bridge			South	1705	18	0	0	0	0%	0	5	Y	Y	Y	3479	4	35.0	5	4	**3.97**	**D**	**5.48**	**F**
3rd Ave S	10th St S	Goodlette-Frank Rd	North	861	11	0	0	7	100%	11	5	Y	Y	Y	115	1	30.0	2	4	**0.49**	**A**	**3.89**	**D**
3rd Ave S	10th St S	Goodlette-Frank Rd	South	860	11	0	0	7	100%	14	5	Y	Y	Y	151	1	30.0	2	4	**0.45**	**A**	**4.03**	**D**
3rd Ave S	Gulf Shore Blvd	9th St S	North	3614	11	0	7	7	100%	7	8	Y	Y	Y	456	1	30.0	2	4	**1.31**	**A**	**3.87**	**D**
3rd Ave S	Gulf Shore Blvd	9th St S	South	3614	11	0	7	0	0%	7	8	Y	Y	Y	462	1	30.0	2	4	**1.96**	**A**	**1.47**	**A**
3rd Ave S	9th St S	10th St S	North	376	12	0	0	7	100%	10	8	Y	Y	Y	123	1	30.0	2	4	**0.50**	**A**	**3.92**	**D**
3rd Ave S	9th St S	10th St S	South	376	12	0	0	7	100%	6	8	Y	Y	Y	154	1	30.0	2	4	**0.75**	**A**	**4.04**	**D**
1st Ave S	9th St S	10th St S	North	344	12	0	0	17	100%	0	0	Y	Y	Y	85	1	30.0	2	4	**0.90**	**A**	**3.33**	**C**
Central Ave	Goodlette-Frank Rd	Riverside Cir	South	428	17	0	0	0	0%	12	10	Y	Y	Y	18	1	30.0	2	4	**0.66**	**A**	**1.50**	**A**
Central Ave	Goodlette-Frank Rd	Riverside Cir	North	421	17	0	0	0	0%	0	0	Y	Y	Y	35	1	30.0	2	4	**2.27**	**B**	**1.84**	**A**
4th Ave N	Gulf Shore Blvd	6th St N	North	2243	10	0	0	0	0%	0	0	Y	Y	Y	222	1	30.0	2	4	**4.09**	**D**	**3.72**	**D**
4th Ave N	Gulf Shore Blvd	6th St N	South	2222	10	0	0	0	0%	0	0	Y	Y	Y	344	1	30.0	2	4	**4.36**	**E**	**3.94**	**D**
4th Ave N	6th St N	9th St N	North	1312	11	0	0	0	0%	8	8	Y	Y	Y	222	2	30.0	2	4	**1.24**	**A**	**3.97**	**D**
4th Ave N	6th St N	9th St N	South	1273	11	0	0	7	100%	0	6	Y	Y	Y	344	2	30.0	2	4	**1.19**	**A**	**4.79**	**E**
5th Ave N	9th St N	Goodlette-Frank Rd	North	1689	12	0	0	17	100%	2	8	Y	Y	Y	229	1	30.0	2	4	**0.98**	**A**	**3.83**	**D**
5th Ave N	9th St N	Goodlette-Frank Rd	South	1692	12	0	0	17	100%	2	8	Y	Y	Y	333	1	30.0	2	4	**1.22**	**A**	**4.02**	**D**
5th Ave N	8th St N	9th St N	North	382	12	0	0	17	100%	2	8	Y	Y	Y	41	1	30.0	2	4	**0.55**	**A**	**2.96**	**C**
5th Ave N	8th St N	9th St N	South	383	12	0	0	17	100%	2	8	Y	Y	Y	15	1	30.0	2	4	**0.49**	**A**	**2.45**	**B**
6th Ave N	9th St N	10th St N	South	122	11	0	0	17	100%	0	0	Y	Y	Y	100	1	30.0	2	4	**0.97**	**A**	**3.50**	**C**
7th Ave N	8th St N	9th St N	North	381	11	0	0	0	0%	10	5	Y	Y	Y	216	1	25.0	2	4	**1.30**	**A**	**3.38**	**C**
7th Ave N	8th St N	9th St N	South	381	11	0	0	0	0%	0	8	Y	Y	Y	650	1	25.0	2	4	**3.25**	**C**	**3.94**	**D**
7th Ave N	9th St N	10th St N	North	381	11	0	0	0	0%	12	5	Y	Y	Y	261	2	25.0	2	4	**0.97**	**A**	**3.82**	**D**
7th Ave N	9th St N	10th St N	South	381	11	0	0	0	0%	8	8	Y	Y	Y	344	1	25.0	2	4	**1.66**	**A**	**3.61**	**D**
7th Ave N	10th St N	Goodlette-Frank Rd	North	1451	12	0	0	0	0%	0	0	Y	Y	Y	212	1	25.0	2	4	**3.73**	**D**	**3.25**	**C**
7th Ave N	10th St N	Goodlette-Frank Rd	South	1438	12	0	5	0	0%	0	0	Y	Y	Y	377	1	25.0	2	4	**3.51**	**D**	**1.84**	**A**
7th St N	4th Ave N	7th Ave N	East	1684	15	0	5	0	0%	0	0	Y	Y	Y	100	1	25.0	2	4	**2.25**	**B**	**0.47**	**A**
7th St N	4th Ave N	7th Ave N	West	1684	15	0	5	0	0%	0	0	Y	Y	Y	100	1	25.0	2	4	**2.25**	**B**	**0.47**	**A**
7th St N	7th Ave N	Golf Dr	East	276	12	0	0	0	0%	0	0	Y	Y	Y	100	1	25.0	2	4	**2.98**	**C**	**2.87**	**C**
7th St N	7th Ave N	Golf Dr	West	298	12	0	0	0	0%	0	0	Y	Y	Y	100	1	25.0	2	4	**2.98**	**C**	**2.87**	**C**
8th St S	6th Ave S	5th Ave S	East	321	11	0	0	7	0%	3	8	Y	Y	Y	307	1	30.0	2	4	**1.95**	**A**	**1.26**	**A**
8th St S	6th Ave S	5th Ave S	West	326	11	0	0	7	0%	3	8	Y	Y	Y	329	1	30.0	2	4	**2.00**	**B**	**1.30**	**A**
8th St S	5th Ave S	Central Ave	East	1929	14	0	0	7	100%	9	8	Y	Y	Y	315	1	30.0	2	4	**0.96**	**A**	**4.39**	**E**
8th St S	5th Ave S	Central Ave	West	1928	14	0	0	7	100%	9	8	Y	Y	Y	174	1	30.0	2	4	**0.64**	**A**	**4.09**	**D**
8th St N	Central Ave	4th Ave N	West	1538	12	0	0	0	0%	9	5	Y	Y	Y	196	1	30.0	2	4	**1.43**	**A**	**3.44**	**C**
8th St N	Central Ave	4th Ave N	East	1534	12	0	0	0	0%	0	6	Y	Y	Y	462	2	30.0	2	4	**2.49**	**B**	**4.22**	**D**
8th St N	4th Ave N	5th Ave N	West	371	12	0	0	0	0%	9	5	Y	Y	Y	169	1	30.0	2	4	**1.37**	**A**	**3.36**	**C**
8th St N	4th Ave N	5th Ave N	East	404	12	0	0	0	0%	0	6	Y	Y	Y	280	2	30.0	2	4	**2.29**	**B**	**3.97**	**D**
8th St N	5th Ave N	7th Ave N	East	1299	12	0	0	7	100%	0	6	Y	Y	Y	349	1	30.0	2	4	**1.58**	**A**	**4.45**	**E**

Pedestrian and Bicycle Level of Service Calculations: No Build

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	PLOS Score	PLOS	BLOS Score	BLOS
8th St N	5th Ave N	7th Ave N	West	1327	12	0	0	0	0%	0	0	Y	Y	Y	81	1	30.0	2	4	2.97	C	2.99	C
9th St S	6th Ave S	5th Ave S	East	301	11	0	0	0	0%	0	8	Y	Y	Y	467	1	30.0	2	4	2.95	C	3.99	D
9th St S	6th Ave S	5th Ave S	West	321	11	0	0	7	100%	0	6	Y	Y	Y	429	1	30.0	2	4	1.77	A	4.56	E
9th St	5th Ave S	5th Ave N	East	3961	11	0	0	7	100%	0	6	Y	Y	Y	1523	2	30.0	5	4	2.53	B	6.12	F
9th St	5th Ave S	5th Ave N	West	3984	11	0	0	7	100%	0	6	Y	Y	Y	1663	2	30.0	5	4	2.69	B	6.17	F
9th St N	5th Ave N	7th Ave N	East	1334	11	0	0	0	0%	0	6	Y	Y	Y	1847	3	30.0	5	4	3.40	C	5.82	F
9th St N	5th Ave N	7th Ave N	West	1320	11	0	0	0	0%	0	6	Y	Y	Y	1773	3	40.0	5	4	3.63	D	6.16	F
9th St N	7th Ave N	14th Ave N	East	2736	11	0	0	0	0%	0	6	Y	Y	Y	2266	3	40.0	5	4	4.00	D	6.28	F
9th St N	7th Ave N	14th Ave N	West	2728	11	0	0	0	0%	0	6	Y	Y	Y	1852	3	40.0	5	4	3.69	D	6.18	F
9th St N	14th Ave N	Fleischmann Blvd	East	1059	11	0	0	0	0%	2	5	Y	Y	Y	2266	3	40.0	5	4	3.75	D	6.28	F
9th St N	14th Ave N	Fleischmann Blvd	West	1227	11	0	0	0	0%	45	5	Y	Y	Y	1852	3	40.0	5	4	1.20	A	6.18	F
10th St	5th Ave S	6th Ave N	East	4365	10	0	0	7	100%	0	6	Y	Y	Y	289	1	25.0	2	4	1.35	A	4.13	D
10th St	5th Ave S	6th Ave N	West	4365	10	0	0	17	100%	0	6	Y	Y	Y	299	1	25.0	2	4	1.20	A	3.90	D
12th St S	6th Ave S	5th Ave S	East	328	12	0	0	17	100%	0	5	Y	Y	Y	192	1	25.0	2	4	0.96	A	3.52	D
12th St S	6th Ave S	5th Ave S	West	264	12	0	0	0	100%	5	8	Y	Y	Y	197	1	25.0	2	4	0.89	A	3.92	D
12th St S	1st Ave S	Central Ave	East	73	12	0	0	17	100%	0	0	Y	Y	Y	100	1	25.0	2	4	0.85	A	3.19	C
Study Area Average																				**2.21**	**B**	**4.20**	**D**

Pedestrian and Bicycle Level of Service Calculations: Base Build

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	PLOS Score	PLOS	BLOS Score	BLOS
6th Ave S	8th St S	12th St S	North	1578	10	0	12	0	0%	8	12	Y	Y	Y	282	1	30.0	2	4	1.40	A	-0.78	A
6th Ave S	8th St S	12th St S	South	1638	11	0	12	7	100%	10	10	Y	Y	Y	389	1	30.0	2	4	0.96	A	2.09	B
5th Ave S	9th St S	Goodlette-Frank Rd	North	1223	11	0	0	0	0%	6	10	Y	Y	Y	1621	3	30.0	2	4	2.37	B	5.18	F
5th Ave S	9th St S	Goodlette-Frank Rd	South	1163	11	0	0	0	0%	6	6	Y	Y	Y	1557	3	30.0	2	4	2.40	B	5.16	F
5th Ave S Bridge			North	1654	11	0	8	0	0%	2	6	Y	Y	Y	2623	4	35.0	5	4	3.02	C	3.31	C
5th Ave S Bridge			South	1702	11	0	8	0	0%	2	6	Y	Y	Y	3479	4	35.0	5	4	3.51	D	3.46	C
3rd Ave S	10th St S	Goodlette-Frank Rd	North	855	10	0	8	7	100%	5	8	Y	Y	Y	115	1	30.0	2	4	0.62	A	3.04	C
3rd Ave S	10th St S	Goodlette-Frank Rd	South	854	10	0	8	7	100%	5	8	Y	Y	Y	151	1	30.0	2	4	0.70	A	3.18	C
3rd Ave S	Gulf Shore Blvd	9th St S	North	3589	10	0	8	7	100%	7	8	Y	Y	Y	456	1	30.0	2	4	1.30	A	3.74	D
3rd Ave S	Gulf Shore Blvd	9th St S	South	3589	10	0	8	7	100%	7	8	Y	Y	Y	462	1	30.0	2	4	1.32	A	3.75	D
3rd Ave S	9th St S	10th St S	North	373	10	0	8	7	100%	7	8	Y	Y	Y	123	1	30.0	2	4	0.54	A	3.08	C
3rd Ave S	9th St S	10th St S	South	373	10	0	8	7	100%	7	8	Y	Y	Y	154	1	30.0	2	4	0.62	A	3.19	C
1st Ave S	9th St S	10th St S	North	342	12	0	0	17	100%	0	8	Y	Y	Y	85	1	30.0	2	4	0.76	A	3.33	C
Central Ave	Goodlette-Frank Rd	Riverside Cir	South	425	10	0	7	0	0%	12	10	Y	Y	Y	18	1	30.0	2	4	0.62	A	0.07	A
Central Ave	Goodlette-Frank Rd	Riverside Cir	North	418	10	0	7	0	0%	0	0	Y	Y	Y	35	1	30.0	2	4	2.14	B	0.40	A
4th Ave N	Gulf Shore Blvd	6th St N	North	2228	10	0	7	0	0%	9	5	Y	Y	Y	222	1	30.0	2	4	1.37	A	1.34	A
4th Ave N	Gulf Shore Blvd	6th St N	South	2207	10	0	7	0	0%	9	5	Y	Y	Y	344	1	30.0	2	4	1.65	A	1.56	A
4th Ave N	6th St N	9th St N	North	1303	10	0	7	0	0%	10	8	Y	Y	Y	222	1	30.0	2	4	1.22	A	1.34	A
4th Ave N	6th St N	9th St N	South	1264	10	0	7	0	0%	9	8	Y	Y	Y	344	1	30.0	2	4	1.57	A	1.56	A
6th Ave N	9th St N	10th St N	South	121	11	0	0	17	100%	0	8	Y	Y	Y	100	1	30.0	2	4	0.81	A	3.50	C
7th Ave N	8th St N	9th St N	North	379	10	0	10	0	0%	4	6	Y	Y	Y	216	1	25.0	2	4	1.54	A	-0.52	A
7th Ave N	8th St N	9th St N	South	379	10	0	10	0	0%	10	10	Y	Y	Y	650	1	25.0	2	4	2.02	B	0.04	A
7th Ave N	9th St N	10th St N	North	379	11	0	10	0	0%	9	8	Y	Y	Y	261	2	25.0	2	4	0.90	A	-0.38	A
7th Ave N	9th St N	10th St N	South	379	11	0	10	0	0%	6	10	Y	Y	Y	344	1	25.0	2	4	1.58	A	-0.59	A
7th Ave N	10th St N	Goodlette-Frank Rd	North	1441	11	0	10	0	0%	8	8	Y	Y	Y	212	1	25.0	2	4	1.15	A	-0.83	A
7th Ave N	10th St N	Goodlette-Frank Rd	South	1428	11	0	10	0	0%	4	10	Y	Y	Y	377	1	25.0	2	4	1.81	A	-0.54	A
7th St N	4th Ave N	7th Ave N	East	1678	11	0	0	0	0%	3	6	Y	Y	Y	100	1	25.0	2	4	1.67	A	2.99	C
7th St N	4th Ave N	7th Ave N	West	1678	11	0	0	0	0%	3	6	Y	Y	Y	100	1	25.0	2	4	1.67	A	2.99	C
7th St N	7th Ave N	Golf Dr	East	275	11	0	0	0	0%	4	5	Y	Y	Y	100	1	25.0	2	4	1.61	A	2.99	C
7th St N	7th Ave N	Golf Dr	West	297	11	0	0	0	0%	4	5	Y	Y	Y	100	1	25.0	2	4	1.61	A	2.99	C
8th St S	5 1/2 Ave S	5th Ave S	East	157	10	0	8	6	100%	8	8	Y	Y	Y	307	1	30.0	2	4	0.93	A	3.67	D
8th St S	5 1/2 Ave S	5th Ave S	West	157	10	0	8	6	100%	8	8	Y	Y	Y	329	1	30.0	2	4	0.98	A	3.70	D
8th St S	5th Ave S	Central Ave	East	1922	10	0	7	6	100%	9	8	Y	Y	Y	315	1	30.0	2	4	0.92	A	3.90	D
8th St S	5th Ave S	Central Ave	West	1921	10	0	7	6	100%	9	8	Y	Y	Y	174	1	30.0	2	4	0.60	A	3.60	D
8th St N	Central Ave	4th Ave N	West	1533	10	0	5	0	0%	4	5	Y	Y	Y	196	1	30.0	2	4	1.80	A	2.16	B
8th St N	Central Ave	4th Ave N	East	1529	10	0	8	6	100%	4	8	Y	Y	Y	462	1	30.0	2	4	1.47	A	3.87	D
8th St N	4th Ave N	5th Ave N	West	370	10	0	5	0	0%	4	5	Y	Y	Y	169	1	30.0	2	4	1.74	A	2.08	B
8th St N	4th Ave N	5th Ave N	East	402	10	0	8	6	100%	4	8	Y	Y	Y	280	1	30.0	2	4	1.06	A	3.62	D
8th St N	5th Ave N	7th Ave N	East	1295	10	0	8	6	100%	4	8	Y	Y	Y	349	1	30.0	2	4	1.21	A	3.73	D
8th St N	5th Ave N	7th Ave N	West	1322	10	0	5	0	0%	4	5	Y	Y	Y	81	1	30.0	2	4	1.53	A	1.71	A
9th St	5th Ave S	5th Ave N	East	3930	11	0	0	0	0%	6	6	Y	Y	Y	1523	3	30.0	5	4	2.37	B	5.72	F
9th St	5th Ave S	5th Ave N	West	3970	11	0	0	0	0%	6	10	Y	Y	Y	1663	3	30.0	5	4	2.40	B	5.77	F
9th St N	5th Ave N	7th Ave N	East	1329	11	0	0	0	0%	5	6	Y	Y	Y	1847	3	40.0	5	4	3.00	C	6.18	F
9th St N	5th Ave N	7th Ave N	West	1315	11	0	0	0	0%	6	10	Y	Y	Y	1773	3	40.0	5	4	2.76	C	6.16	F

Pedestrian and Bicycle Level of Service Calculations: Base Build

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	**PLOS Score**	**PLOS**	**BLOS Score**	**BLOS**
9th St N	7th Ave N	14th Ave N	East	2727	11	0	10	0	0%	5	6	Y	Y	Y	2266	3	40.0	5	4	**3.06**	**C**	**2.08**	**B**
9th St N	7th Ave N	14th Ave N	West	2718	11	0	10	0	0%	6	10	Y	Y	Y	1852	3	40.0	5	4	**2.59**	**B**	**1.98**	**A**
9th St N	14th Ave N	Fleischmann Blvd	East	1055	11	0	10	0	0%	6	6	Y	Y	Y	2266	3	40.0	5	4	**2.97**	**C**	**2.08**	**B**
9th St N	14th Ave N	Fleischmann Blvd	West	1223	11	0	10	0	0%	12	10	Y	Y	Y	1852	3	40.0	5	4	**2.21**	**B**	**1.98**	**A**
10th St	Central Ave	6th Ave N	East	4349	11	0	0	7	100%	2	6	Y	Y	Y	289	1	25.0	2	4	**1.21**	**A**	**4.13**	**D**
10th St	Central Ave	6th Ave N	West	4349	11	0	0	7	100%	7	9	Y	Y	Y	299	1	25.0	2	4	**0.92**	**A**	**4.15**	**D**
12th St S	5 1/2 Ave S	5th Ave S	West	110	11	0	0	0	0%	7	8	Y	Y	Y	192	1	25.0	2	4	**1.39**	**A**	**3.32**	**C**
12th St S	5 1/2 Ave S	5th Ave S	East	111	11	0	0	7	100%	6	10	Y	Y	Y	197	1	25.0	2	4	**0.73**	**A**	**3.94**	**D**
12th St S	1st Ave S	Central Ave	East	72	12	0	0	0	0%	10	8	Y	Y	Y	100	1	25.0	2	4	**0.94**	**A**	**2.87**	**C**
Study Area Average																			**1.73**	**A**	**3.15**	**C**

Pedestrian and Bicycle Level of Service Calculations: Enhanced Build

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	PLOS Score	PLOS	BLOS Score	BLOS
6th Ave S	8th St S	12th St S	North	1578	10	0	12	0	0%	8	12	Y	Y	Y	282	1	30.0	2	4	**1.40**	**A**	**-0.78**	**A**
6th Ave S	8th St S	12th St S	South	1638	11	0	12	7	100%	10	10	Y	Y	Y	389	1	30.0	2	4	**0.96**	**A**	**2.09**	**B**
5th Ave S	9th St S	Goodlette-Frank Rd	North	1223	11	0	0	7	100%	6	10	Y	Y	Y	1380	3	30.0	2	4	**1.44**	**A**	**5.70**	**F**
5th Ave S	9th St S	Goodlette-Frank Rd	South	1163	11	0	0	7	100%	6	10	Y	Y	Y	1157	3	30.0	2	4	**1.27**	**A**	**5.62**	**F**
5th Ave S Bridge			North	1654	12	0	14	0	0%	2	14	Y	Y	Y	2623	4	35.0	5	4	**2.78**	**C**	**0.48**	**A**
5th Ave S Bridge			South	1702	12	0	14	0	0%	2	14	Y	Y	Y	3479	4	35.0	5	4	**3.27**	**C**	**0.62**	**A**
3rd Ave S	10th St S	Goodlette-Frank Rd	North	855	10	0	8	7	100%	5	8	Y	Y	Y	115	1	30.0	2	4	**0.62**	**A**	**3.04**	**C**
3rd Ave S	10th St S	Goodlette-Frank Rd	South	854	10	0	8	7	100%	5	8	Y	Y	Y	151	1	30.0	2	4	**0.70**	**A**	**3.18**	**C**
3rd Ave S	Gulf Shore Blvd	9th St S	North	3589	10	0	8	7	100%	7	8	Y	Y	Y	456	1	30.0	2	4	**1.30**	**A**	**3.74**	**D**
3rd Ave S	Gulf Shore Blvd	9th St S	South	3589	10	0	8	7	100%	7	8	Y	Y	Y	462	1	30.0	2	4	**1.32**	**A**	**3.75**	**D**
3rd Ave S	9th St S	10th St S	North	373	10	0	8	7	100%	7	8	Y	Y	Y	123	1	30.0	2	4	**0.54**	**A**	**3.08**	**C**
3rd Ave S	9th St S	10th St S	South	373	10	0	8	7	100%	7	8	Y	Y	Y	154	1	30.0	2	4	**0.62**	**A**	**3.19**	**C**
1st Ave S	9th St S	10th St S	North	342	12	0	0	17	100%	0	8	Y	Y	Y	85	1	30.0	2	4	**0.76**	**A**	**3.33**	**C**
Central Ave	Goodlette-Frank Rd	Riverside Cir	South	425	10	0	7	0	0%	12	10	Y	Y	Y	18	1	30.0	2	4	**0.62**	**A**	**0.07**	**A**
Central Ave	Goodlette-Frank Rd	Riverside Cir	North	418	10	0	7	0	0%	0	0	Y	Y	Y	35	1	30.0	2	4	**2.14**	**B**	**0.40**	**A**
4th Ave N	Gulf Shore Blvd	6th St N	North	2261	10	0	0	0	0%	10	5	Y	Y	Y	222	1	30.0	2	4	**1.44**	**A**	**3.72**	**D**
4th Ave N	Gulf Shore Blvd	6th St N	South	2263	11	0	14	0	0%	8	5	Y	Y	Y	344	1	30.0	2	4	**1.59**	**A**	**-1.68**	**A**
4th Ave N	6th St N	8th St N	South	899	11	0	14	0	0%	8	8	Y	Y	Y	344	1	30.0	2	4	**1.51**	**A**	**-1.68**	**A**
4th Ave N	6th St N	8th St N	North	902	10	0	0	0	0%	10	8	Y	Y	Y	222	1	30.0	2	4	**1.35**	**A**	**3.72**	**D**
5th Ave N	9th St N	Goodlette-Frank Rd	North	1677	11	0	10	5	100%	2	5	Y	Y	Y	302	1	30.0	2	4	**1.25**	**A**	**3.10**	**C**
5th Ave N	9th St N	Goodlette-Frank Rd	South	1680	11	0	10	8	100%	1	10	Y	Y	Y	435	1	30.0	2	4	**1.49**	**A**	**2.76**	**C**
5th Ave N	8th St N	9th St N	North	379	11	0	10	5	100%	2	5	Y	Y	Y	40	1	30.0	2	4	**0.65**	**A**	**2.07**	**B**
5th Ave N	8th St N	9th St N	South	380	11	0	10	8	100%	1	10	Y	Y	Y	15	1	30.0	2	4	**0.53**	**A**	**1.05**	**A**
6th Ave N	9th St N	10th St N	South	121	11	0	0	17	100%	0	8	Y	Y	Y	100	1	30.0	2	4	**0.81**	**A**	**3.50**	**C**
7th Ave N	8th St N	9th St N	North	379	10	0	10	0	0%	4	6	Y	Y	Y	216	1	25.0	2	4	**1.54**	**A**	**-0.52**	**A**
7th Ave N	8th St N	9th St N	South	379	10	0	10	0	0%	10	10	Y	Y	Y	650	1	25.0	2	4	**2.02**	**B**	**0.04**	**A**
7th Ave N	9th St N	10th St N	North	379	11	0	10	0	0%	9	8	Y	Y	Y	285	2	25.0	2	4	**0.93**	**A**	**-0.33**	**A**
7th Ave N	9th St N	10th St N	South	379	11	0	10	0	0%	6	10	Y	Y	Y	378	1	25.0	2	4	**1.66**	**A**	**-0.54**	**A**
7th Ave N	10th St N	Goodlette-Frank Rd	North	1441	11	0	10	0	0%	8	8	Y	Y	Y	229	1	25.0	2	4	**1.19**	**A**	**-0.79**	**A**
7th Ave N	10th St N	Goodlette-Frank Rd	South	1428	11	0	10	0	0%	4	10	Y	Y	Y	401	1	25.0	2	4	**1.87**	**A**	**-0.51**	**A**
7th St N	4th Ave N	7th Ave N	East	1678	11	0	0	0	0%	3	6	Y	Y	Y	100	1	25.0	2	4	**1.67**	**A**	**2.99**	**C**
7th St N	4th Ave N	7th Ave N	West	1678	11	0	0	0	0%	3	6	Y	Y	Y	100	1	25.0	2	4	**1.67**	**A**	**2.99**	**C**
7th St N	7th Ave N	Golf Dr	East	275	11	0	0	0	0%	4	5	Y	Y	Y	100	1	25.0	2	4	**1.61**	**A**	**2.99**	**C**
7th St N	7th Ave N	Golf Dr	West	297	11	0	0	0	0%	4	5	Y	Y	Y	100	1	25.0	2	4	**1.61**	**A**	**2.99**	**C**
8th St S	6th Ave S	5th Ave S	East	319	10	0	0	6	0%	9	8	Y	Y	Y	307	1	30.0	2	4	**1.50**	**A**	**1.97**	**A**
8th St S	6th Ave S	5th Ave S	West	325	10	0	14	7	0%	8	8	Y	Y	Y	329	1	30.0	2	4	**1.41**	**A**	**-3.98**	**A**
8th St S	5th Ave S	Central Ave	East	1922	10	0	0	6	0%	9	8	Y	Y	Y	315	1	30.0	2	4	**1.52**	**A**	**1.98**	**A**
8th St S	5th Ave S	Central Ave	West	1921	10	0	14	7	0%	8	8	Y	Y	Y	174	1	30.0	2	4	**1.06**	**A**	**-4.31**	**A**
8th St N	Central Ave	5th Ave N	West	1979	10	0	13	0	0%	4	5	Y	Y	Y	196	1	30.0	2	4	**1.60**	**A**	**-1.29**	**A**
8th St N	Central Ave	5th Ave N	East	1931	10	0	0	6	100%	4	8	Y	Y	Y	462	1	30.0	2	4	**1.59**	**A**	**4.59**	**E**
8th St N	5th Ave N	7th Ave N	East	1295	10	0	0	6	100%	4	8	Y	Y	Y	349	1	30.0	2	4	**1.33**	**A**	**4.45**	**E**
8th St N	5th Ave N	7th Ave N	West	1322	10	0	13	0	0%	4	5	Y	Y	Y	81	1	30.0	2	4	**1.34**	**A**	**-1.73**	**A**
9th St S	6th Ave S	5th Ave S	East	300	11	0	0	7	100%	6	8	Y	Y	Y	467	1	30.0	2	4	**1.47**	**A**	**4.60**	**E**
9th St S	6th Ave S	5th Ave S	West	320	11	0	0	7	100%	10	10	Y	Y	Y	429	1	30.0	2	4	**1.19**	**A**	**4.56**	**E**
9th St	5th Ave S	5th Ave N	East	3930	11	0	0	7	100%	6	10	Y	Y	Y	1287	2	30.0	5	4	**1.86**	**A**	**6.04**	**F**
9th St	5th Ave S	5th Ave N	West	3970	11	0	0	7	100%	6	10	Y	Y	Y	1332	2	30.0	5	4	**1.91**	**A**	**6.05**	**F**
9th St N	5th Ave N	7th Ave N	East	1329	11	0	0	0	0%	5	6	Y	Y	Y	1714	3	40.0	5	4	**2.90**	**C**	**6.14**	**F**
9th St N	5th Ave N	7th Ave N	West	1315	11	0	0	0	0%	6	10	Y	Y	Y	1586	3	40.0	5	4	**2.62**	**B**	**6.10**	**F**
9th St N	7th Ave N	14th Ave N	East	2727	11	0	10	0	0%	5	6	Y	Y	Y	2157	3	40.0	5	4	**2.97**	**C**	**2.06**	**B**
9th St N	7th Ave N	14th Ave N	West	2718	11	0	10	0	0%	6	10	Y	Y	Y	1699	3	40.0	5	4	**2.48**	**B**	**1.93**	**A**

Pedestrian and Bicycle Level of Service Calculations: Enhanced Build

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	**PLOS Score**	**PLOS**	**BLOS Score**	**BLOS**
9th St N	14th Ave N	Fleischmann Blvd	East	1055	11	0	10	0	0%	6	6	Y	Y	Y	2157	3	40.0	5	4	**2.89**	**C**	**2.06**	**B**
9th St N	14th Ave N	Fleischmann Blvd	West	1223	11	0	10	0	0%	12	10	Y	Y	Y	1699	3	40.0	5	4	**2.09**	**B**	**1.93**	**A**
10th St	5th Ave S	6th Ave N	East	4349	11	0	0	7	100%	2	6	Y	Y	Y	326	1	25.0	2	4	**1.30**	**A**	**4.19**	**D**
10th St	5th Ave S	6th Ave N	West	4349	11	0	0	7	100%	7	9	Y	Y	Y	351	1	25.0	2	4	**1.04**	**A**	**4.23**	**D**
12th St S	6th Ave S	5th Ave S	East	334	11	0	0	7	100%	2	9	Y	Y	Y	192	1	25.0	2	4	**0.94**	**A**	**3.92**	**D**
12th St S	6th Ave S	5th Ave S	West	272	11	0	12	0	0%	10	10	Y	Y	Y	197	1	25.0	2	4	**0.96**	**A**	**-1.51**	**A**
12th St S	1st Ave S	Central Ave	East	72	12	0	0	0	0%	10	8	Y	Y	Y	100	1	25.0	2	4	**0.94**	**A**	**2.87**	**C**
Study Area Average																			**1.63**	**A**	**2.63**	**B**

Pedestrian and Bicycle Level of Service Calculations: Implementation Build

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	PLOS Score	PLOS	BLOS Score	BLOS
6th Ave S	8th St S	12th St S	North	1578	10	0	12	0	0%	8	12	Y	Y	Y	282	1	30.0	2	4	1.40	A	-0.78	A
6th Ave S	8th St S	12th St S	South	1638	11	0	12	7	100%	10	10	Y	Y	Y	389	1	30.0	2	4	0.96	A	2.09	B
5th Ave S	9th St S	Goodlette-Frank Rd	North	1223	11	0	0	7	100%	6	10	Y	Y	Y	1380	3	30.0	2	4	1.44	A	5.70	F
5th Ave S	9th St S	Goodlette-Frank Rd	South	1163	11	0	0	7	100%	6	10	Y	Y	Y	1157	3	30.0	2	4	1.27	A	5.62	F
5th Ave S Bridge			North	1654	12	0	14	0	0%	2	14	Y	Y	Y	2623	4	35.0	5	4	2.78	C	0.48	A
5th Ave S Bridge			South	1702	12	0	14	0	0%	2	14	Y	Y	Y	3479	4	35.0	5	4	3.27	C	0.62	A
3rd Ave S	10th St S	Goodlette-Frank Rd	North	855	10	0	8	7	100%	5	8	Y	Y	Y	115	1	30.0	2	4	0.62	A	3.04	C
3rd Ave S	10th St S	Goodlette-Frank Rd	South	854	10	0	8	7	100%	5	8	Y	Y	Y	151	1	30.0	2	4	0.70	A	3.18	C
3rd Ave S	Gulf Shore Blvd	9th St S	North	3589	10	0	8	7	100%	7	8	Y	Y	Y	456	1	30.0	2	4	1.30	A	3.74	D
3rd Ave S	Gulf Shore Blvd	9th St S	South	3589	10	0	8	7	100%	7	8	Y	Y	Y	462	1	30.0	2	4	1.32	A	3.75	D
3rd Ave S	9th St S	10th St S	North	373	10	0	8	7	100%	7	8	Y	Y	Y	123	1	30.0	2	4	0.54	A	3.08	C
3rd Ave S	9th St S	10th St S	South	373	10	0	8	7	100%	7	8	Y	Y	Y	154	1	30.0	2	4	0.62	A	3.19	C
1st Ave S	9th St S	10th St S	North	342	12	0	0	17	100%	0	8	Y	Y	Y	85	1	30.0	2	4	0.76	A	3.33	C
Central Ave	Goodlette-Frank Rd	Riverside Cir	South	425	10	0	7	0	0%	12	10	Y	Y	Y	18	1	30.0	2	4	0.62	A	0.07	A
Central Ave	Goodlette-Frank Rd	Riverside Cir	North	418	10	0	7	0	0%	0	0	Y	Y	Y	35	1	30.0	2	4	2.14	B	0.40	A
4th Ave N	Gulf Shore Blvd	6th St N	North	2261	10	0	0	0	0%	10	5	Y	Y	Y	222	1	30.0	2	4	1.44	A	3.72	D
4th Ave N	Gulf Shore Blvd	6th St N	South	2263	11	0	14	0	0%	8	5	Y	Y	Y	344	1	30.0	2	4	1.59	A	-1.68	A
4th Ave N	6th St N	8th St N	South	899	11	0	14	0	0%	8	8	Y	Y	Y	344	1	30.0	2	4	1.51	A	-1.68	A
4th Ave N	6th St N	8th St N	North	902	10	0	0	0	0%	10	8	Y	Y	Y	222	1	30.0	2	4	1.35	A	3.72	D
5th Ave N	9th St N	Goodlette-Frank Rd	North	1677	11	0	10	5	100%	2	5	Y	Y	Y	302	1	30.0	2	4	1.25	A	3.10	C
5th Ave N	9th St N	Goodlette-Frank Rd	South	1680	11	0	10	8	100%	1	10	Y	Y	Y	435	1	30.0	2	4	1.49	A	2.76	C
5th Ave N	8th St N	9th St N	North	379	11	0	10	5	100%	2	5	Y	Y	Y	40	1	30.0	2	4	0.65	A	2.07	B
5th Ave N	8th St N	9th St N	South	380	11	0	10	8	100%	1	10	Y	Y	Y	15	1	30.0	2	4	0.53	A	1.05	A
6th Ave N	9th St N	10th St N	South	121	11	0	0	17	100%	0	8	Y	Y	Y	100	1	30.0	2	4	0.81	A	3.50	C
7th Ave N	8th St N	9th St N	North	379	10	0	10	0	0%	4	6	Y	Y	Y	216	1	25.0	2	4	1.54	A	-0.52	A
7th Ave N	8th St N	9th St N	South	379	10	0	10	0	0%	10	10	Y	Y	Y	650	1	25.0	2	4	2.02	B	0.04	A
7th Ave N	9th St N	10th St N	North	379	11	0	10	0	0%	9	8	Y	Y	Y	285	2	25.0	2	4	0.93	A	-0.33	A
7th Ave N	9th St N	10th St N	South	379	11	0	10	0	0%	6	10	Y	Y	Y	378	1	25.0	2	4	1.66	A	-0.54	A
7th Ave N	10th St N	Goodlette-Frank Rd	North	1441	11	0	10	0	0%	8	8	Y	Y	Y	229	1	25.0	2	4	1.19	A	-0.79	A
7th Ave N	10th St N	Goodlette-Frank Rd	South	1428	11	0	10	0	0%	4	10	Y	Y	Y	401	1	25.0	2	4	1.87	A	-0.51	A
7th St N	4th Ave N	7th Ave N	East	1678	11	0	0	0	0%	3	6	Y	Y	Y	100	1	25.0	2	4	1.67	A	2.99	C
7th St N	4th Ave N	7th Ave N	West	1678	11	0	0	0	0%	3	6	Y	Y	Y	100	1	25.0	2	4	1.67	A	2.99	C
7th St N	7th Ave N	Golf Dr	East	275	11	0	0	0	0%	4	5	Y	Y	Y	100	1	25.0	2	4	1.61	A	2.99	C
7th St N	7th Ave N	Golf Dr	West	297	11	0	0	0	0%	4	5	Y	Y	Y	100	1	25.0	2	4	1.61	A	2.99	C
8th St S	6th Ave S	5th Ave S	East	319	10	0	8	6	100%	8	8	Y	Y	Y	307	1	30.0	2	4	0.93	A	3.67	D
8th St S	6th Ave S	5th Ave S	West	325	10	0	8	6	100%	8	8	Y	Y	Y	329	1	30.0	2	4	0.98	A	3.70	D
8th St S	5th Ave S	Central Ave	East	1922	10	0	7	6	100%	9	8	Y	Y	Y	315	1	30.0	2	4	0.92	A	3.90	D
8th St S	5th Ave S	Central Ave	West	1921	10	0	7	6	100%	9	8	Y	Y	Y	174	1	30.0	2	4	0.60	A	3.60	D
8th St N	Central Ave	4th Ave N	West	1533	10	0	5	0	0%	4	5	Y	Y	Y	196	1	30.0	2	4	1.80	A	2.16	B
8th St N	Central Ave	4th Ave N	East	1529	10	0	8	6	100%	4	8	Y	Y	Y	462	1	30.0	2	4	1.47	A	3.87	D
8th St N	4th Ave N	5th Ave N	West	370	10	0	5	0	0%	4	5	Y	Y	Y	169	1	30.0	2	4	1.74	A	2.08	B
8th St N	4th Ave N	5th Ave N	East	402	10	0	8	6	100%	4	8	Y	Y	Y	280	1	30.0	2	4	1.06	A	3.62	D
8th St N	5th Ave N	7th Ave N	East	1295	10	0	8	6	100%	4	8	Y	Y	Y	349	1	30.0	2	4	1.21	A	3.73	D

Pedestrian and Bicycle Level of Service Calculations: Implementation Build

Directional Segments					Inputs														Results			
Facility	From	To	Direction	Length	Width of outside through lane (ft) W_{ol}	Width of paved outside shoulder (ft) W_{os}	Width of bicycle lane (ft) W_{bl}	Width of striped parking lane (ft) W_{pk}	Proportion of on-street parking occupied P_{pk}	Buffer width (ft) W_{buf}	Available Sidewalk Width (ft) W_A	Curb present? (Y/N)	Continuous barrier? (Y/N)	Street divided? (Y/N)	Directional volume of motorized vehicles in the in the subject direction of travel (vph) v_m	Number of through lanes in the subject direction of travel (ln) N_{th}	Running speed of motorized vehicle traffic (mph) S_R	Percent heavy vehicles in motorized vehicle volume. (%) P_{HV}	FHWA's five point pavement surface condition rating (1-5) P_C	PLOS Score	PLOS	BLOS Score	BLOS
8th St N	5th Ave N	7th Ave N	West	1322	10	0	5	0	0%	4	5	Y	Y	Y	81	1	30.0	2	4	1.53	A	1.71	A
9th St S	6th Ave S	5th Ave S	East	300	11	0	0	7	100%	6	8	Y	Y	Y	467	1	30.0	2	4	1.47	A	4.60	E
9th St S	6th Ave S	5th Ave S	West	320	11	0	0	7	100%	10	10	Y	Y	Y	429	1	30.0	2	4	1.19	A	4.56	E
9th St	5th Ave S	5th Ave N	East	3930	11	0	0	7	100%	6	10	Y	Y	Y	1287	2	30.0	5	4	1.86	A	6.04	F
9th St	5th Ave S	5th Ave N	West	3970	11	0	0	7	100%	6	10	Y	Y	Y	1332	2	30.0	5	4	1.91	A	6.05	F
9th St N	5th Ave N	7th Ave N	East	1329	11	0	0	0	0%	5	6	Y	Y	Y	1714	3	40.0	5	4	2.90	C	6.14	F
9th St N	5th Ave N	7th Ave N	West	1315	11	0	0	0	0%	6	10	Y	Y	Y	1586	3	40.0	5	4	2.62	B	6.10	F
9th St N	7th Ave N	14th Ave N	East	2727	11	0	10	0	0%	5	6	Y	Y	Y	2157	3	40.0	5	4	2.97	C	2.06	B
9th St N	7th Ave N	14th Ave N	West	2718	11	0	10	0	0%	6	10	Y	Y	Y	1699	3	40.0	5	4	2.48	B	1.93	A
9th St N	14th Ave N	Fleischmann Blvd	East	1055	11	0	10	0	0%	6	8	Y	Y	Y	2157	3	40.0	5	4	2.84	C	2.06	B
9th St N	14th Ave N	Fleischmann Blvd	West	1223	11	0	10	0	0%	12	10	Y	Y	Y	1699	3	40.0	5	4	2.09	B	1.93	A
10th St	5th Ave S	6th Ave N	East	4349	11	0	0	7	100%	2	6	Y	Y	Y	326	1	25.0	2	4	1.30	A	4.19	D
10th St	5th Ave S	6th Ave N	West	4349	11	0	0	7	100%	7	9	Y	Y	Y	351	1	25.0	2	4	1.04	A	4.23	D
12th St S	6th Ave S	5th Ave S	East	334	11	0	0	7	100%	2	9	Y	Y	Y	192	1	25.0	2	4	0.94	A	3.92	D
12th St S	6th Ave S	5th Ave S	West	272	11	0	12	0	0%	10	10	Y	Y	Y	197	1	25.0	2	4	0.96	A	-1.51	A
12th St S	1st Ave S	Central Ave	East	72	12	0	0	0	0%	10	8	Y	Y	Y	100	1	25.0	2	4	0.94	A	2.87	C
Study Area Average																			1.60	A	3.03	C

Appendix B: Four Corners Intersection Operations

15: 9th St S & 5th Ave S & US 41 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.0	0.1	0.0	0.2
Denied Del/Veh (s)	0.9	0.1	1.0	0.1	0.3
Total Delay (hr)	5.6	4.9	5.4	9.0	24.9
Total Del/Veh (s)	76.3	18.7	42.6	26.8	31.2
Stop Delay (hr)	5.5	3.9	4.9	6.8	21.0
Stop Del/Veh (s)	75.1	14.7	38.5	20.2	26.3

Intersection: 15: 9th St S & 5th Ave S & US 41

Movement	EB	WB	NB	NB	SB	SB	SB	SB
Directions Served	TR	T	LT	R	L	L	T	R
Maximum Queue (ft)	355	357	332	273	420	443	358	121
Average Queue (ft)	234	251	180	105	234	231	120	43
95th Queue (ft)	368	386	288	232	404	421	256	95
Link Distance (ft)	341	339	403	403		666	666	666
Upstream Blk Time (%)	7	6	0	1		0		
Queuing Penalty (veh)	17	19	0	0		1		
Storage Bay Dist (ft)					480			
Storage Blk Time (%)					1	1		
Queuing Penalty (veh)					5	6		

15: 9th St S & 5th Ave S & US 41 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.2	0.0	7.4	0.6	8.3
Denied Del/Veh (s)	2.1	0.0	51.3	1.7	9.0
Total Delay (hr)	5.7	2.8	15.6	17.7	41.8
Total Del/Veh (s)	61.1	9.0	106.7	46.9	45.1
Stop Delay (hr)	5.6	1.5	14.7	14.4	36.2
Stop Del/Veh (s)	59.1	4.9	100.9	38.1	39.1

Intersection: 15: 9th St S & 5th Ave S & US 41

Movement	EB	WB	NB	NB	SB	SB	SB	SB
Directions Served	TR	T	LT	R	L	L	T	R
Maximum Queue (ft)	365	273	442	422	539	685	508	203
Average Queue (ft)	271	130	363	232	325	341	136	37
95th Queue (ft)	419	229	507	453	559	650	401	131
Link Distance (ft)	341	339	403	403		666	666	666
Upstream Blk Time (%)	10	0	40	10		2	1	0
Queuing Penalty (veh)	33	0	0	0		8	4	0
Storage Bay Dist (ft)					480			
Storage Blk Time (%)					6	7		
Queuing Penalty (veh)					31	34		

15: 9th St S & 5th Ave S & US 41 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	1.3	0.0	0.6	0.4	2.4
Denied Del/Veh (s)	14.4	0.0	4.8	1.1	2.4
Total Delay (hr)	8.9	9.1	9.7	31.3	59.1
Total Del/Veh (s)	99.0	25.4	73.6	78.4	60.3
Stop Delay (hr)	8.8	6.9	9.0	26.8	51.6
Stop Del/Veh (s)	97.8	19.4	68.2	67.1	52.7

Intersection: 15: 9th St S & 5th Ave S & US 41

Movement	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	TR	L	T	R	R	LT	R	L	L	T	R
Maximum Queue (ft)	370	200	357	319	320	423	280	500	664	518	145
Average Queue (ft)	325	160	282	165	145	293	106	439	484	239	65
95th Queue (ft)	429	248	407	309	309	470	260	532	647	404	118
Link Distance (ft)	346		339	339	339	399	399		665	665	665
Upstream Blk Time (%)	21		6	0	0	13	1		1	0	
Queuing Penalty (veh)	65		24	0	0	0	0		5	1	
Storage Bay Dist (ft)		150						450			
Storage Blk Time (%)		7	22					13	22		
Queuing Penalty (veh)		23	28					69	113		

15: 9th St S & 5th Ave S & US 41 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.1	0.0	0.4	0.0	0.1
Total Delay (hr)	2.8	4.9	6.9	8.6	23.2
Total Del/Veh (s)	30.3	18.2	52.5	29.2	29.5
Stop Delay (hr)	2.7	3.3	6.3	6.5	18.7
Stop Del/Veh (s)	28.6	12.1	47.7	22.1	23.7

Intersection: 15: 9th St S & 5th Ave S & US 41

Movement	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	TR	L	T	R	L	T	R	L	L	TR
Maximum Queue (ft)	332	200	353	342	99	362	211	320	311	355
Average Queue (ft)	179	112	197	142	20	213	76	159	163	122
95th Queue (ft)	313	218	366	311	74	358	147	305	304	258
Link Distance (ft)	370		336	336		416	416		715	715
Upstream Blk Time (%)	0		1	0		1				
Queuing Penalty (veh)	1		7	1		0				
Storage Bay Dist (ft)		150			50			450		
Storage Blk Time (%)		0	12		0	73		0		
Queuing Penalty (veh)		1	16		0	8		0		

INTERSECTION SUMMARY

Site: Four Corners

New Site
Roundabout

Intersection Performance - Hourly Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	3458	veh/h	4150	pers/h
Percent Heavy Vehicles (Demand)	2.7	%		
Degree of Saturation	1.515			
Practical Spare Capacity	-43.9	%		
Effective Intersection Capacity	2282	veh/h		
Control Delay (Total)	84.72	veh-h/h	101.66	pers-h/h
Control Delay (Average)	88.2	sec	88.2	sec
Control Delay (Worst Lane)	255.4	sec		
Control Delay (Worst Movement)	258.9	sec	258.9	sec
Geometric Delay (Average)	5.0	sec		
Stop-Line Delay (Average)	83.2	sec		
Idling Time (Average)	62.7	sec		
Intersection Level of Service (LOS)	LOS F			
95% Back of Queue - Vehicles (Worst Lane)	69.2	veh		
95% Back of Queue - Distance (Worst Lane)	1795.3	ft		
Queue Storage Ratio (Worst Lane)	5.58			
Total Effective Stops	7390	veh/h	8868	pers/h
Effective Stop Rate	2.14	per veh	2.14	per pers
Proportion Queued	0.88		0.88	
Performance Index	433.6		433.6	
Travel Distance (Total)	732.8	veh-mi/h	879.4	pers-mi/h
Travel Distance (Average)	1119	ft	1119	ft
Travel Time (Total)	109.9	veh-h/h	131.9	pers-h/h
Travel Time (Average)	114.4	sec	114.4	sec
Travel Speed	6.7	mph	6.7	mph
Cost (Total)	1602.46	$/h	1602.46	$/h
Fuel Consumption (Total)	43.9	gal/h		
Carbon Dioxide (Total)	391.9	kg/h		
Hydrocarbons (Total)	0.271	kg/h		
Carbon Monoxide (Total)	1.403	kg/h		
NOx (Total)	0.361	kg/h		

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: SIDRA Roundabout LOS.
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Intersection Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	1,659,959	veh/y	1,991,951	pers/y
Delay	40,663	veh-h/y	48,796	pers-h/y
Effective Stops	3,547,314	veh/y	4,256,777	pers/y
Travel Distance	351,744	veh-mi/y	422,093	pers-mi/y
Travel Time	52,770	veh-h/y	63,324	pers-h/y
Cost	769,180	$/y	769,180	$/y
Fuel Consumption	21,057	gal/y		
Carbon Dioxide	188,094	kg/y		
Hydrocarbons	130	kg/y		
Carbon Monoxide	673	kg/y		
NOx	173	kg/y		

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DELAY (AVERAGE)

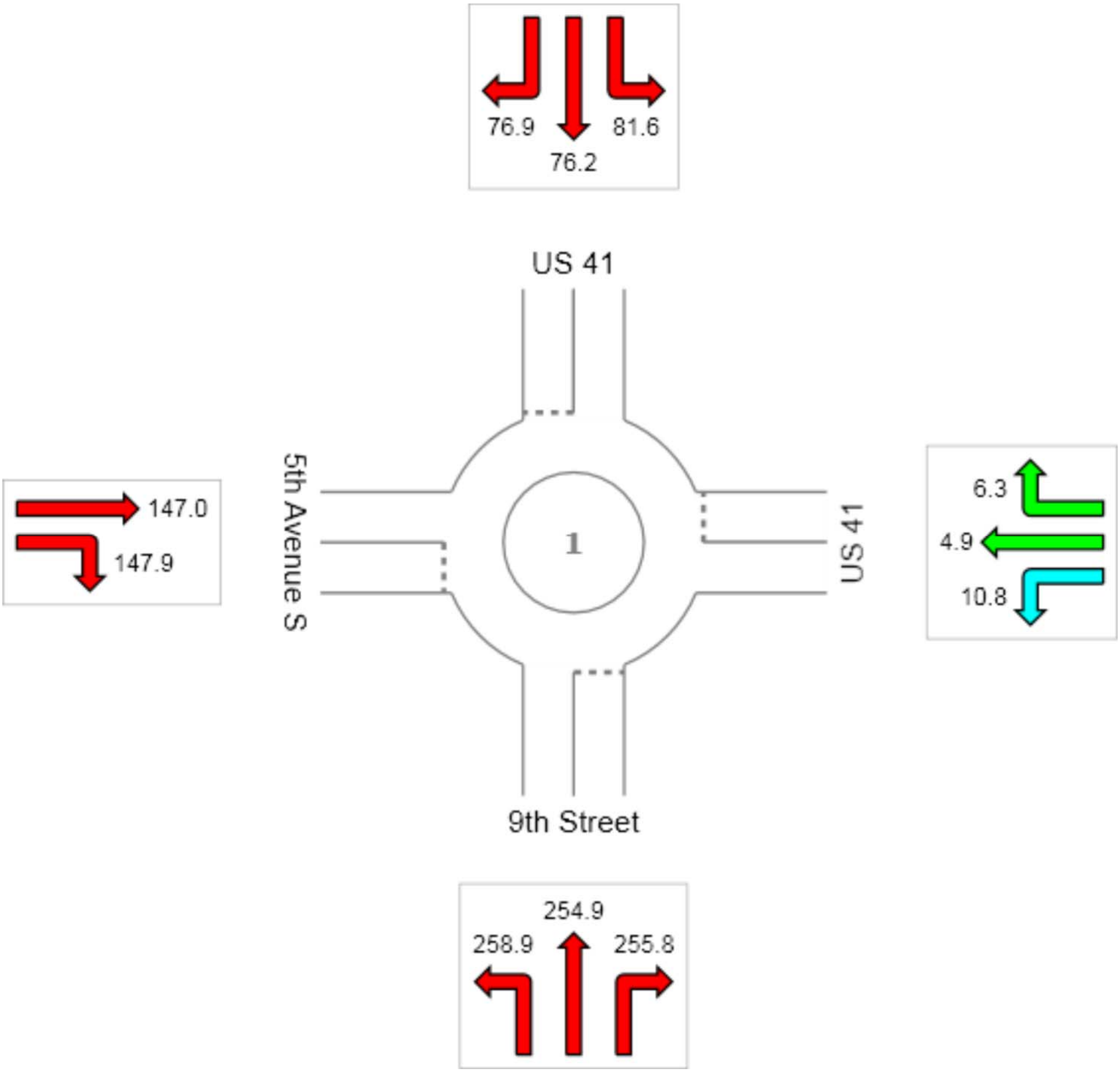
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: Four Corners

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Average)	255.4	7.0	79.5	147.0	88.2
LOS	F	A	F	F	F



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F | Continuous

Level of Service Method: Delay & v/c (HCM 2010)
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

QUEUE DISTANCE

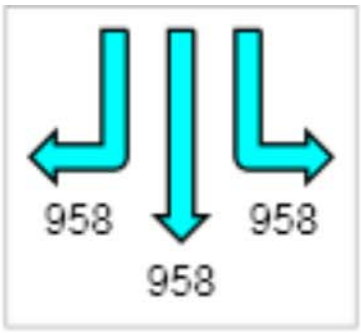
Largest 95% Back of Queue for any lane used by movement (feet)

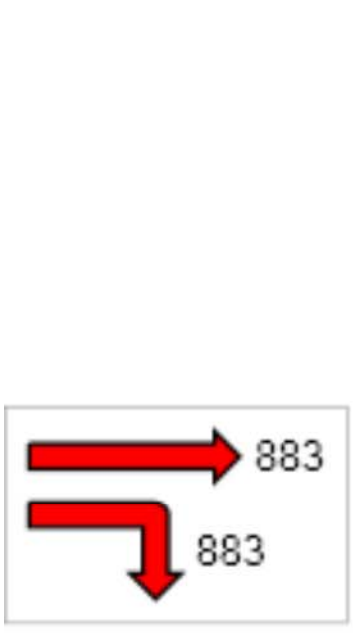
Site: Four Corners

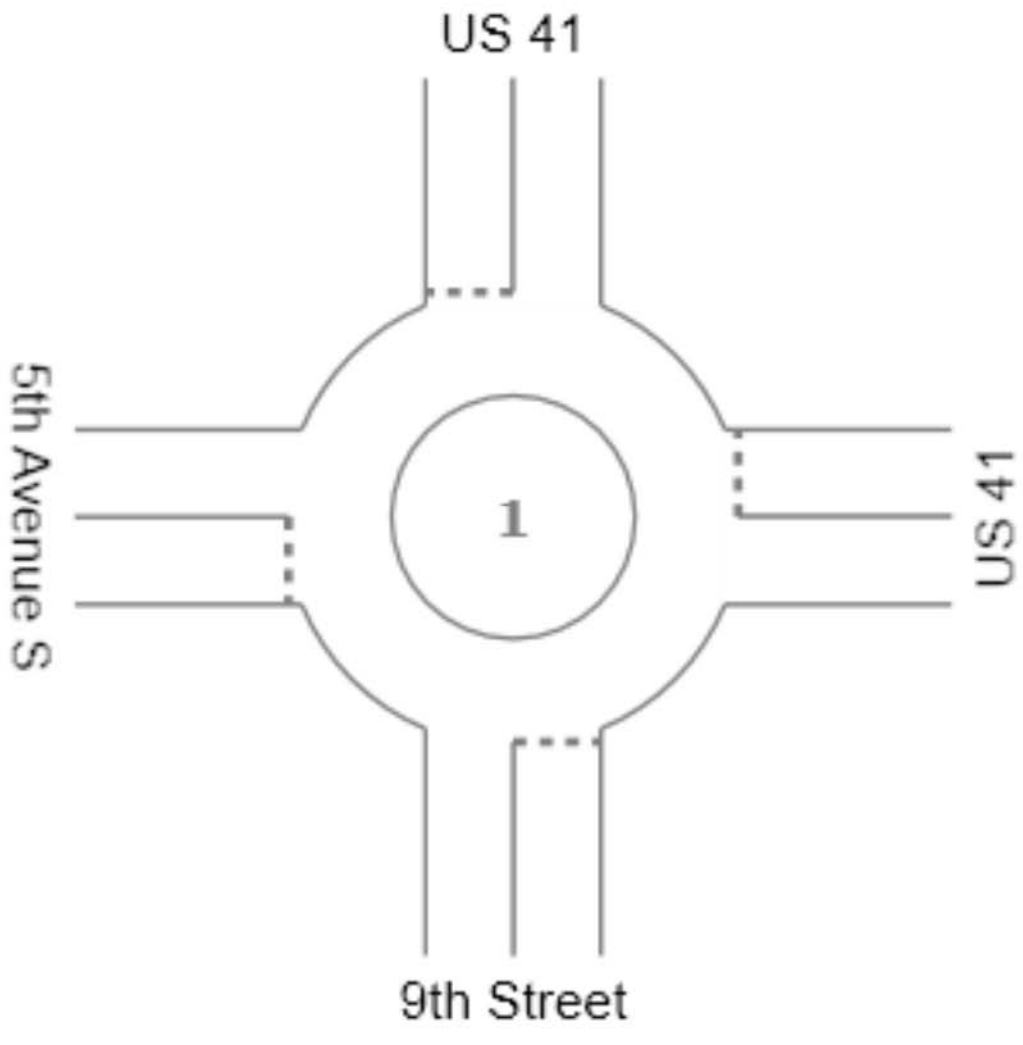
New Site
Roundabout

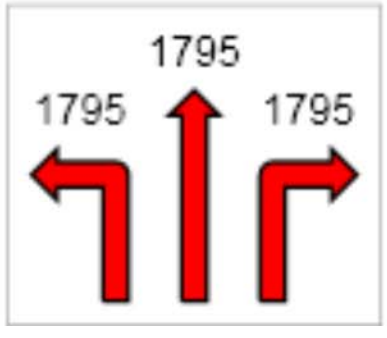
All Movement Classes

	South	East	North	West	Intersection
Queue Distance	1795	165	958	883	1795









Colour code based on Queue Storage Ratio

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0] Continuous

Appendix C: Comparison of Improvement Alternatives

Downtown Naples Mobility & Connectivity Plan

US - 41 (5th Avenue North to Goodlette-Frank Rd)
Comparison of Improvement Alternatives

	No Build 6-Lane Road	Base Build Alternative 6-Lane Road	Enhanced Build 4-Lane Complete Street RECOMMENDED
Sidewalk Width	4 to 5-feet wide 0 - 2-feet from curb	10-foot on westside 6-foot on eastside	**10-foot on both sides**
Pedestrian Level of Service	B (2.61)	B (2.39)	**A (1.89)**
Distance to Cross US-41	82'	74'	**54'**
Bicycle Level of Service (No Designated Facility)	F (6.15)	F (5.75)	**F (6.05)***
Number of Travel Lanes	6	6	**4**
Parallel Parking Opportunity	No	No	**Yes**
Maximum Potential Capacity (Ave. Daily Traffic at Level of Service E)	50,900	50,900	**33,800**
2040 Forecasted Demand (Ave. Daily)	38,500	38,500	**27,700**
Travel Time: Northbound 9th Street, Four Corners to Golden Gate Parkway	7:54	7:57	**6:48**
Travel Time: Southbound 9th Street, Golden Gate Parkway to Four Corners	7:34	7:34	**6:34**
Average Delay at Four Corners	45.1 seconds	60.3 seconds	**29.5 seconds**
Access Improvements	None	**Westbound Left on US-41 at Four Corners, Westbound Left on US 41 at 12th St. South Northbound Right on 12th St. South at US-41**	
Transit Stops	Right Lane, Blocking Traffic	Right Lane, Blocking Traffic	**Dedicated bus bays**
Bioswales & Water Quality Improvements	No	No	**Yes**
Upside Economic Benefits	$209,000,000	$260,000,000	**$520,000,000**

*While there is no dedicated bicycle facility proposed for US 41/9th Street, the 10-foot sidewalks would offer an improved condition for the rider.

Appendix D: Cost Estimates

#	Project	Length	Base LRE	Decorative Finishes ($100 plf)	Landscaping ($150 plf)	Signalization ($300,000 ea)	*Construction Subtotal*	Environmental & Public Outreach (5%)*	Design (15%)	CEI (8%)	Total	Cost Estimate
1	Gordon River Bridge	0.32 miles	$ 1,586,297	$ 251,643	$ 167,762	$ -	***$ 2,005,702***	$ 100,285	$ 300,855	$ 160,456	**$ 2,567,299**	**$ 2,567,000**
2	8th St S: 6th Ave S - Central Ave	0.42 miles	$ 4,617,243	$ 336,525	$ 224,350	$ 600,000	***$ 5,778,118***	$ 288,906	$ 866,718	$ 462,249	**$ 7,395,992**	**$ 7,396,000**
3	8th St N: Central Ave - 7th Ave N	0.62 miles	$ 6,254,901	$ 483,784	$ 322,522	$ 300,000	***$ 7,361,207***	$ 368,060	$1,104,181	$ 588,897	**$ 9,422,345**	**$ 9,422,000**
4	12th St S: 6th Ave S - 5th Ave S	0.06 miles	$ 566,404	$ 45,482	$ 30,322	$ -	***$ 642,208***	$ 32,110	$ 96,331	$ 51,377	**$ 822,026**	**$ 822,000**
5	Fill the Gaps	7.70 miles	$ 1,312,935	$ -	$ -	$ -	***$ 1,312,935***	$ 65,647	$ 196,940	$ 105,035	**$ 1,680,557**	**$ 1,689,000**
6	5th Ave S: 9th St S - Goodlette-Frank Rd	0.23 miles	$ 3,528,384	$ 178,944	$ 119,296	$ 600,000	***$ 4,426,624***	$ 221,331	$ 663,994	$ 354,130	**$ 5,666,079**	**$ 5,666,000**
7	4th Ave N: 6th St N - 8th St N	0.17 miles	$ 2,595,131	$ 192,512	$ 128,341	$ -	***$ 2,915,984***	$ 145,799	$ 437,398	$ 233,279	**$ 3,732,459**	**$ 3,732,000**
8	5th Ave N: 8th St N - Goodlette-Frank Rd	0.39 miles	$ 4,214,146	$ 308,772	$ 205,848	$ 600,000	***$ 5,328,767***	$ 266,438	$ 799,315	$ 426,301	**$ 6,820,821**	**$ 6,821,000**
9	7th St N: 4th Ave N - 7th Ave N	0.32 miles	$ 325,852	$ 251,697	$ 167,798	$ -	***$ 745,347***	$ 37,267	$ 111,802	$ 59,628	**$ 954,044**	**$ 954,000**
10	9th St: 5th Ave S - 7th Ave N	1.00 miles	$16,735,025	$ 837,315	$ 558,210	$ 1,800,000	***$ 19,930,549***	$ 996,527	$2,989,582	$1,594,444	**$ 25,511,102**	**$ 25,511,000**
11	6th Ave S: 8th St S - 12th St S	0.30 miles	$ 2,990,312	$ 241,212	$ 160,808	$ 600,000	***$ 3,992,333***	$ 199,617	$ 598,850	$ 319,387	**$ 5,110,186**	**$ 5,110,000**
12	3rd Ave S: 9th St S - Goodlette-Frank Rd	0.23 miles	$ 2,555,547	$ 184,113	$ 122,742	$ -	***$ 2,862,402***	$ 143,120	$ 429,360	$ 228,992	**$ 3,663,874**	**$ 3,664,000**
13	4th Ave N: Gulf Shore Blvd - 6th St N	0.43 miles	$ 4,143,591	$ 332,608	$ 221,739	$ -	***$ 4,697,938***	$ 234,897	$ 704,691	$ 375,835	**$ 6,013,361**	**$ 6,013,000**
14	7th Ave N: 8th St N - Goodlette-Frank Rd	0.42 miles	$ 4,173,045	$ 328,817	$ 219,212	$ 300,000	***$ 5,021,074***	$ 251,054	$ 753,161	$ 401,686	**$ 6,426,975**	**$ 6,427,000**
15	9th St: 7th Ave N - 14th Ave N	0.52 miles	$ 8,473,668	$ 408,330	$ 272,220	$ 300,000	***$ 9,454,218***	$ 472,711	$1,418,133	$ 756,337	**$ 12,101,399**	**$ 12,101,000**
16	10th St: Central Ave S - 6th Ave N	0.46 miles	$ 4,625,172	$ 363,137	$ 242,091	$ 300,000	***$ 5,530,400***	$ 276,520	$ 829,560	$ 442,432	**$ 7,078,912**	**$ 7,079,000**
Total												**$ 104,974,000**

*Assumes Type 1 Categorical Exclusion

Differs slightly from total due to rounding of cost estimates for each project

Appendix E: Project Information and Fact Sheet

DOWNTOWN NAPLES
Mobility & Circulation Plan
Project Information and Fact Sheet

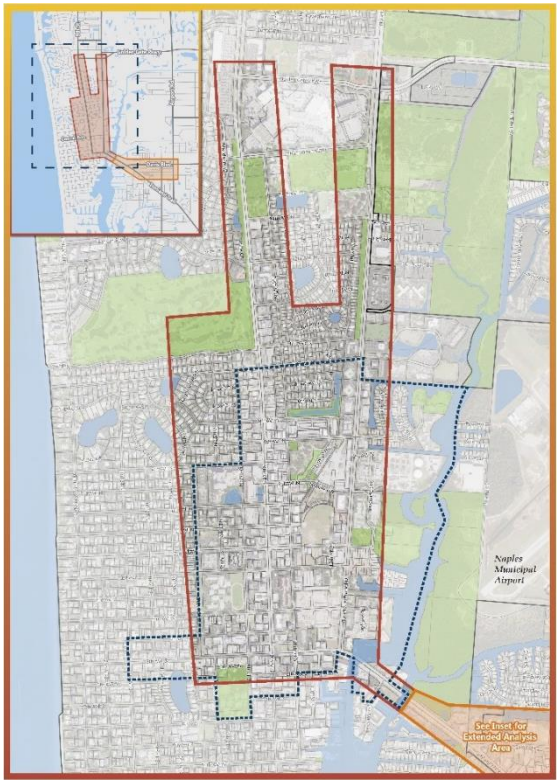
WHAT IS THE PLAN ABOUT?

It's about transportation, quality of life, public safety, health and well-being, economic development, and so much more. Some even say that this may be the most comprehensive transportation plan in the City's 68-year history and can shape the City's future.

WHY DO WE NEED A TRANSPORTATION PLAN?

To build towards the community's vision for the future. If the City doesn't have a plan, others will build to meet their individual needs, not the community's. In the late 1970's, the Florida Department of Transportation developed plans to expand US 41/Tamiami Trail to six lanes. Back then, the City Council passed three separate resolutions opposing this project because it knew a highway dedicated moving as many automobiles as possible would physically divide the City and cause unintended consequences that would have long-lasting affects.

Today, transportation is much more than moving cars and trucks. People want to move about in a variety of ways such as walking, bicycling, golf carts, trollies, and ride-share services to name a few. Redevelopment in the downtown area is also occurring in such a way where businesses have a desire for on street parking and pedestrians more than before.



HOW WAS THE DRAFT PLAN DEVELOPED?

Ironically, it started with a grant from the Florida Department of Transportation and began on June 1, 2016. Since that time, an enormous amount of traffic data was collected and analyzed by experienced traffic engineers and transportation planners. Several public involvement opportunities were also provided throughout the 18-month long effort. The input and analysis were used to develop the recommendations reflected in the Plan.

WHAT IS THE STUDY AREA?

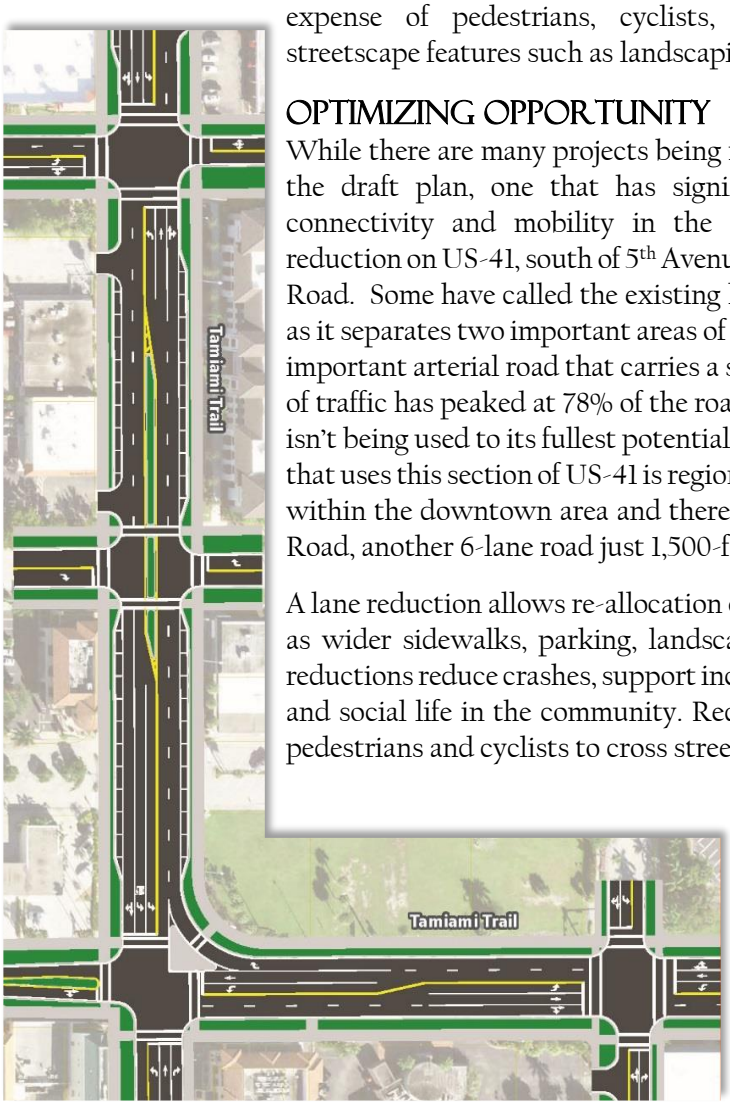
The Plan studied the downtown area of Naples that's bounded by Golden Gate Pkwy at the north, Davis Blvd to the south, 6th Street to the west and Goodlette-Frank Rd to the east. The study area was selected in part, because of ongoing redevelopment and strong community desire.

WHAT DOES THE PLAN ACCOMPLISH?

The plan charts a path forward for the City of Naples in developing a transportation network that improves mobility, enriches community quality of life, and enhances economic vitality. The plan defines needed improvements intended to meet the City's goals for mobility, circulation and enhanced economic conditions.

WHAT IS A COMPLETE STREET?

The guiding principle used in developing this plan is the concept known as "complete streets." This represents a fundamental change in how we plan and design transportation systems. Historically, planners and engineers have been efficient in designing systems that accommodate automobiles, but often at the expense of pedestrians, cyclists, and important streetscape features such as landscaping and lighting.



OPTIMIZING OPPORTUNITY

While there are many projects being recommended in the draft plan, one that has significant potential to restore connectivity and mobility in the downtown area is a lane reduction on US-41, south of 5th Avenue North to Goodlette-Frank Road. Some have called the existing highway "The Great Divide" as it separates two important areas of downtown Naples. This plan recognizes that US-41 is a very important arterial road that carries a significant volume of traffic. But data shows that the volume of traffic has peaked at 78% of the road's carrying capacity, which means that 28% of the roadway isn't being used to its fullest potential but is still dedicated to automobiles. Also, 25% of the traffic that uses this section of US-41 is regional traffic, meaning drivers don't have an origin or destination within the downtown area and therefore could use an alternative route such as Goodlette-Frank Road, another 6-lane road just 1,500-feet east of US-41.

A lane reduction allows re-allocation of paved surface area for other complete street elements such as wider sidewalks, parking, landscaping and Stormwater management. Data shows that lane reductions reduce crashes, support increased pedestrian and bicycle activity, and enhance the retail and social life in the community. Reduced roadway widths also provide a safer environment for pedestrians and cyclists to cross streets.

HOW WILL THIS AFFECT TRAVEL TIME?

With a lane reduction, the analysis shows that travel times on US 41 between Golden Gate Parkway and Four Corners are anticipated to improve by one minute, when compared to maintaining the 6-lane configuration and regional traffic.

WILL TRAFFIC SHIFT TO NEIGHBORHOODS?

Analyses performed in conjunction with this study did not indicate increased traffic volumes on neighborhood roadways primarily because of the slower speed limits imposed on those roadways and frequent stop control; however, additional traffic calming strategies on local roadways are contained within the plan to discourage the use of local facilities for regional trips.

Naples FLORIDA

For more information on the study or copies of the final documents contact:

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Appendix F: Response to Collier County Comments

City of Naples
STREETS & STORMWATER
TELEPHONE (239) 213-5000 • FACSIMILE (239) 213-5010
295 RIVERSIDE CIRCLE • NAPLES, FLORIDA 34102

October 17, 2017

Trinity Scott, Transportation Planning Manager
Transportation Planning Section-Collier County
2685 South Horseshoe Drive
Naples, FL 34104

Dear Trinity,

Thank you for your October 10th email providing comments on the City's Draft Final Downtown Circulation & Mobility Plan. Also, thank you for participating in this project over the course of the last 18 months and continuing to provide input. I wanted to wait until today to respond to your email because we held our City Council workshop yesterday on the Draft Final Plan and received valuable feedback from City Council. Brent Lacy and Margaret Kubilins from VHB, Inc. did an outstanding job presenting the recommendations along with detailed analysis that took place over the last 18-months. It's been a pleasure working with them and all the folks at VHB. As you know we've had to make several adjustments along the way and VHB has really stepped up by doing the work for no additional cost or working with FDOT to allocate more resources. This was particularly true when we agreed to expand the study area to include areas that you had pointed out were of concern to the County (Gateway Triangle and the intersection of Goodlette-Frank Rd/Golden Gate Pkwy).

Yesterday's workshop highlighted something very important. The City has been looking to improve safety and transportation as part of redevelopment of the downtown area since 1994, maybe even before that. More emphasis was possibly given to the effort when Collier County made significant improvements to add vehicular capacity to the county's roadway network by widening Goodlette-Frank Road to 6-lanes, improving Golden Gate Parkway with an overpass, and establishing a brand new 6-lane arterial on Livingston Rd. I'm probably missing a few others, but these seem to be the projects that have had the greatest impact on transportation within the City and could very well be the primary reason US-41 between Golden Gate Parkway and Goodlette-Frank Road hasn't really reach its full potential as a 6-lane facility. Yesterday, one council member even went as far as to say that the models used by FDOT back in the 1970's to justify 6-laning US-41 turned out to be wrong. You may not know this but the City Council passed three separate resolutions formally opposing a 6-lane expansion of US-41 in the late 1970's. Hind sight is 20/20, but I don't think anyone could've predicted the significant capacity improvements that Collier County has made to county roads between 1995 and 2005.

In the Draft Final Plan, VHB recommends many transportation improvements that are aimed at improving, not just safety, but public health and well-being, multi-modal opportunities, connectivity and circulation. Today, Uber, semi-autonomous vehicles, and the increasing number of low-speed

vehicles, have changed transportation and it will certainly look different in 2040 than it does today. One thing is certain though, the data collection, analysis and planning that has been done over the last 18-months has provided the most comprehensive transportation plan in the City's 68-year history. With that said, it's only the beginning.

One recommendations made in the Draft Plan is one that has been discussed for several years and recommended by other professional consulting firms in years past. That is the reduction of automobile travel lanes on US-41 from six to four, between 5th Ave North and Goodlette-Frank Rd. The proposed lane reduction would reallocate the remaining right-of-way to enhancements such as bus stops, parking, wider sidewalks, bicycle facilities, stormwater bioswales, landscaping, etc. You refer to this as a road diet in your email, but many of us think we're actually expanding the menu for safer transportation options. By reallocating a portion of the right-of-way, we expand use, beauty and function, thereby better serving a progressively changing community and creating a sense of place with a focus on sustainability and economic development.

Lane reductions weren't just considered as part of the 1994 and 2014 Community Redevelopment Plans, it was also looked at quite extensively by Kimley Horn back in 2007/08. Without doubt though, a comprehensive study based on extensive data collection and analysis was certainly necessary. In addition, the partnerships we've worked hard to established during this project with your Department, CAT the MPO and FDOT continue to be important. The involvement of local businesses, residential neighborhood associations, and the Alternatives Development Review Team (ADRT) we formed has also been invaluable. During our presentation to City Council, we explained that the Draft Plan was guided by the input we received at our meetings.

In response to your specific questions, I have the following replies:

1. *Publication of the full draft study inclusive of all technical memorandums should be placed on the City's website – when reviewing the final document, we noticed that prior technical memorandums were not included with the final report.*
   RESPONSE: Data, technical memos and the Draft Downtown Circulation & Mobility Plan can be found at the following web page:
   https://www.naplesgov.com/streetsstormwater/project/downtown-naples-mobility-connectivity-study

2. *Many of the improvements noted in both the Base Build Alternative and the Enhanced Build Alternative will require concurrence from the Florida Department of Transportation (FDOT). It would be counterproductive to provide extensive comments on the technical analyses and the results of these analyses without receiving feedback from FDOT. FDOT may or may not concur with certain improvements and that decision will affect the impacts to the adjacent roadway system.*
   RESPONSE: VHB has acquired data through standard methods used by professional transportation engineers throughout the country. They were pre-qualified by FDOT as a professional transportation consulting firm that FDOT uses quite frequently. Standard FDOT protocols were followed for both data collection, modeling and forecasting. In January of 2017, FDOT had assigned staff (Jerry Graham, Traf-O-Data) to review the modal data. Comments were received and modifications made. FDOT has also used the services of Kittelson Associates to evaluate the travel forecasting methodology that was applied for this project. Collier County's consultant (AIM Engineering) has also been involved with highly technical review of data and

methodology (please refer to your July 28th email). We do not believe comments at this time would be counterproductive, but rather productive in finalizing the plan.

3. *As it stands currently, County staff is not in a position to provide concurrence on the Enhanced Build Alternative (US 41 road diet) as the final study does not adequately address the following items:*
   (a) Impacts to adopted evacuation routes (City of Naples Comprehensive Plan & Collier MPO 2040 Long Range Transportation Plan (LRTP))

RESPONSE: (a) As demonstrated prior to the arrival of hurricane Irma last month, the evacuation of Naples residents was done with much success and without the need for a 6-lane facility. Whether US-41 is 4-lane or 6-lane, current evacuation protocol does not change. The Naples Police Department have review the Draft Final Plan and has not indicated concerns from an evacuation perspective.

(b) Impacts to adopted freight routes (City of Naples Comprehensive Plan, Collier MPO 2040 LRTP & regional freight plan). Truck travel time reliability could significantly affect the on-time performance of freight movements.

RESPONSE: (b) Within the report, travel time differences are noted for a no project alternative, continued 6-lane alternative, and a lane reduction alternative. This can be applied to both vehicular and freight. The travel time for a lane reduction alternative (along with other proposed recommendations) is approximately one minute quicker in 2040 than maintaining the roadway at 6-lanes (no-build option). The lane reduction provides advantages associated with reduced crosswalk lengths and pass times, increased multi-modal use, and reduced vehicular trips.

(c) Near and long-term traffic forecast with and without proposed projects with changes in travel patterns clearly noted

RESPONSE: (c) This is included within the synchro analysis.

(d) Mitigation to address significant and adverse level of service impacts on the regional transportation system resulting from the lane elimination. Increased traffic congestion, travel time and delay will result in diverting traffic to alternative routes. This mitigation must include a full assessment of environmental impacts including but not limited to noise and emissions for the roadways anticipated to receive the additional traffic.

RESPONSE: (d) While the proposed lane reduction on US-41 does show some traffic diversion to other facilities (specific numbers are provided in the synchro analysis that has been provided), roadway links within the transportation network have sufficient vehicular capacity to carry the diverted trips. As previously discussed, Collier County is currently working on improvements to intersection operations, particularly at Goodlette-Frank Rd and Golden Gate Pkwy and the City has provided Collier County with several recommendations resulting from this study for improving the intersections on Goodlette-Frank Road at Golden Gate Parkway and US-41. If there are specific comments regarding these recommendations or reasons they may not be feasible, please advise.

(e) Impacts on transit such as capacity, speed and on-time reliability of the service.

RESPONSE: (e) According to the Draft Final Plan, the proposed lane reduction on US-41 would improve transit's abilities to more efficiently serve the area by creating designated pull outs for passenger loading. Also, there would be a considerable reduction in route timing as CAT buses are equipped with GIS tracking and we work towards signal coordination/pre-emption for buses along US-41. The plan calls for more accommodating bus shelters, particularly for the disabled. Collier Area Transit has provided input and has been an important partner throughout the development of this plan.

(f) Impacts to school crossings.

RESPONSE: (f) There are no proposed changes to school crossings in the study area.

(g) Quantification of the economic impacts to the areas where traffic is being diverted.

RESPONSE: (g) The City's Draft Final Plan studied the economic impacts to property within the study area and determined that complete street designs and multi-modal transportation options increase property value in the project limits approximately $311 million or 140%. Without knowing the County's plans for its transportation network, it is assumed that vehicular traffic will continue to grow on County roadways as planned. Any diverted traffic to a road with additional capacity is not something that would be inconsistent with expectations. Goodlette-Frank Road is a prime example. Additional vehicle lanes were added between 1995 and 2005 to provide for additional vehicle capacity. Today the road is a 6-lane facility with significant remaining capacity. Therefore, the economic impacts to properties adjacent to existing roadways with excess capacity would not change unless the diverted trips caused a roadway to fail (in terms of level of service). This study proves that does not happen as a result of multi-modal, complete street improvements with lane reductions on US-41 out to 2040.

(h) Impacts to air quality. With increased travel time and delay, air quality may be adversely impacted.

RESPONSE: (h) Travel times are shown to decrease slightly within the study area versus a no-build option. Diverted trips would travel a shortened route with less potential for red stops (as compared to US-41. The reduced fuel consumption and improved operations at intersections, where starts and delays are the major contributors, would improve air quality.

(i) An analysis to determine if any of the concepts have a disproportionate impact on individuals or groups who may be protected under various federal acts.

RESPONSE: (i) The proposed lane reduction would utilize a greater portion of the right-of-way to provide increased opportunities and benefits for those in that rely on alternative modes of transportation. It would provide a higher level of safety and increased accessibility, particularly for the disabled and those that cannot afford the high cost of an automobile. I would suggest that the existing condition is plagued with disproportionate impacts on individuals and possibly

groups protected by Federal laws. Lastly and most certainly, there is inequity in the existing use of right-of-way for modes of transportation other than automobiles and trucks.

(j) Consistency with the goals and objectives of the 2040 Collier MPO Long Range Transportation Plan, as well as the financial feasibility of the project. In other words, is the City proposing to divert funds from other projects (County or State) that have been in the pipeline for several years?

RESPONSE: (j) With the adoption of a Final Plan, the City would seek funding from all possible sources. Each funding agency determines the qualifying rules and criteria for grant funding.

(k) Strategy for timing and funding for mitigation for impacts to all modes of transportation.

RESPONSE: (k) Subsequent to City Council's adoption of a Final Plan, City staff would work with its partner agencies to discuss prioritization strategies for programming projects that best serve the overall transportation network in and around the project limits.

If you have any questions or additional comments, please feel free to contact me at this office.

Sincerely,

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239-213-5003

Copy: Lawrence Massey, FDOT
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