

# Urban Mobility Strategies in Miami-Dade County

**FINAL REPORT**

TPO GPC Work Order #GPC VII-08

**October 2020**



Miami-Dade Transportation  
Planning Organization



# **Urban Mobility Strategies in Miami-Dade County**

Submitted for fulfillment of:

TPO GPC Work Order #GPC VII-08

Approved by the TPO Governing Board:

October 22, 2020

Prepared for:



Prepared by:



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The preparation of this report has been financed in part from the U.S. Department of Transportation (USDOT) through the Federal Highway Administration (FHWA) and/or the Federal Transit Administration (FTA), the State Planning and Research Program (Section 505 of Title 23, U.S. Code) and Miami-Dade County, Florida. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.





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# Chapter 1: Introduction

## Section 1.1 Background and Objective

This study is being completed at the behest of the Miami-Dade County Transportation Planning Organization's (TPO) Urban Mobility Task Force (UMTF), which directed TPO staff to conduct a study that identifies strategies and procedures to address the following topics which will be explored in this report:

### A. Improve project development process

- Interagency coordination and communication
- Improve interagency data sharing

### B. Minimize impacts during roadway construction

- Improve project implementation
- Increase public engagement

### C. Identify industry best practices

- Streamline project scoping
- Stakeholder coordination and communication

The topics analyzed above were the basis of this study's findings, which can be found in Chapter 5 – Recommendations & Action Plan.

The study has focused on how to improve project development processes throughout the county. The study team has identified how projects in Miami-Dade are planned, designed, and built, and has formulated recommendations on how to streamline and improve this process. This report summarizes the results of the input received from the Study Advisory Group (SAG), a comprehensive literature review, an analysis of national best practices, and in-depth interviews with existing stakeholders in the private sector, and within state and county government agencies.

## Section 1.2 Coordination

A Study Advisory Group (SAG) was formed to help review and guide the study's development. The members of the SAG were appointed by representatives from the UMTF and were joined by representatives from different TPO citizen advisory committees. The individuals who served on the SAG represented the following agencies and organizations:

Category	Entity	Representative
TPO Citizen Advisory Boards	Bicycle-Pedestrian Advisory Committee	Collin Worth
	Freight Technical Advisory Committee	John Dohm
	Transportation Aesthetics Review Committee	Gavin Sitkoff-Vuong
		Antonio Reyes

	Citizens Technical Advisory Committee	Jasmine Johnson (alternate)
UMTF Representatives	Eileen Higgins	Meg Daly – Founder of Friends of the Underline Juan Mullerat – Director of Plusurbia
	Shelly Smith Fano	Tere Garcia – Sr. Vice President at Bermello, Ajamil & Partners
	Sally A. Heyman	Maria Nardi – Director of Miami-Dade Parks, Recreation & Open Spaces
		Alyssa Turtletaub - Miami-Dade Parks, Recreation & Open Spaces (alternate)

### Subsection 1.2.1. Study Advisory Group (SAG) Meetings

#### Kick-Off SAG Meeting: November 19, 2019

The SAG had its first meeting in November 2019. At this meeting, the study team provided the objective and background of the study and presented preliminary literature review results. The study team reviewed existing manuals and handbooks which include the principles of complete streets and how they have been implemented in Miami-Dade. Other best practices were summarized to identify new strategies to implement and improve the execution and enforcement of existing standards. Based on feedback provided by the SAG at the kick-off meeting, the focus of the study shifted towards gaining a more complete understanding of the existing transportation project development processes and procedures and making recommendations to update them. The SAG provided recommendations to the study team to focus on implementation, and to identify strategies which streamline the process and ensure outcomes that produce complete streets. The SAG also recommended identification of multimodal strategies which result in communities that are more connected, livable, equitable and safe through multimodal transportation.

#### SAG Meeting 2: February 5<sup>th</sup>, 2020

The second SAG meeting was held in February 2020. The study team presented their findings on the existing project development process at the state and county level and identified best practices. SAG members stressed the importance of meaningful public outreach efforts. They noted that the project development process takes too long, which reduces community member's faith in the government. The SAG also noted that there is insufficient coordination within and between agencies. Jurisdictional disputes often further delay projects. The SAG recommended a platform be developed where state, county, and local projects could be coordinated by area and timeline, to assess public impacts, and present information to the public.

#### SAG Meeting 3: April 24, 2020.

The third SAG meeting was held in April 2020. The study team presented a summary of the stakeholder interviews, the key recommendations and proposed action plan. Much of the feedback obtained from the interviews was echoed by the SAG member's comments. Florida Department of Transportation (FDOT) has a Maintenance of Traffic (MOT) tool that could be implemented, and the agency is currently rolling



out a streamlined Project Development and Environment (PD&E) process throughout the state. Miami-Dade County Department of Regulatory and Economic Resources (RER) currently has a central review platform with some the information publicly available. The platform provided historical data about zoning and land use within an integrated Geographic Information systems (GIS). The department has a very clearly defined process written out that facilitates interagency coordination and collaboration with the applicants. The Department of Transportation and Public Works (DTPW) is currently establishing a work program. All in all, these interviews underscored the need for more utility coordination and the need for a streamlined process for all government levels. SAG members pointed out the need for a centralized data repository with a well-defined systematic data collection methodology and rigid requirements to ensure consistency.

To increase utility accountability during the conflict resolution phase, they suggested requiring the utility's final feedback during the earlier design phase to diminish the amount of issues during construction. The members also mentioned the need for an agency wide project letting coordination with a GIS component to ensure that there are no areas with multiple projects going on simultaneously. In addition to the streamline process, they recommended having a companion guide that would be publicly available and facilitate access to key information for contractors, applicants and all relevant governmental agency.

The meeting concluded with SAG members helping the study team identify certain pilot areas and pilot projects. The Northwest area was suggested as a potential study area for freight mobility consideration and reassessing the land use and zoning context in respect to the future of mobility in that area. Downtown Brickell was the other site recommended as pilot area as there are issues with loading zone, and right-of-way management for delivery vehicles, transit, bicyclist, pedestrian, micro-mobility vehicles, ride-share services and passenger cars.

### Subsection 1.2.2. Summary of SAG Meetings

During the SAG meeting the study team received a lot of comments which voiced the following main ideas:

- Determine the existing project development process.
- Make recommendations to streamline project development processes.
- Develop guidelines that provides information about the process during the different project phases.
- Create a data repository that aggregates information in a standardized manner from all governmental agencies and the private entities that work within the right of way.
- Define a conflict resolution process for utilities that is finalized during the early design phase and set up a system to facilitate utility coordination.
- Include a contingency plan in the project development process to minimize jurisdictional disputes.
- Establish an interagency project coordination meeting framework that would focus on countywide project scheduling and phasing to minimize construction impact and reduce redundant work.

## Chapter 2: Literature Review

This chapter contains summaries of various documents which were reviewed to gather best practices in roadway design and construction focused on creating safe, accessible and inclusive streets for all types of road users in urban areas. Various plans and guidelines were reviewed, from entities such as US Department of Transportation (US DOT), Florida Department of Transportation (FDOT), American Association of State Highway and Transportation Officials (AASHTO), Smart Growth America (SGA), National Association of City Transportation Officials (NACTO), National Complete Streets Coalition (NCSC) and the American Association of Retired Persons (AARP). This study also evaluated the 2018 AASHTO Policy on Geometric Design of Highways and Streets (Green Book). In May 2019, FHWA declared the 2018 AASHTO Greenbook acceptable to use for guidance and allows State Departments of Transportation to adopt it.

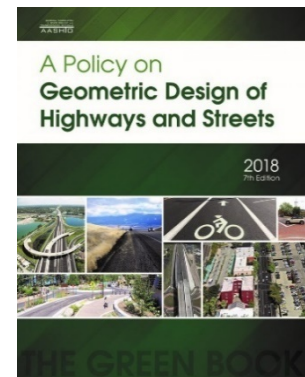
FDOT has produced manuals that incorporate Complete Streets elements and establish a new way to classify roadways which considers both, the roadway's functionality, and the surrounding land use context, into consideration. The latest AASHTO guidelines highlight the need to consider a growing elderly population for all types of road users (pedestrian, cyclist and motorist). Both the FDOT guidelines and recommendations, and MDC's 2017 Complete Streets Design Guidelines are consistent with AASHTO Green Book (2011) standards and are largely in the same vein as NACTO's Complete Street Complete Network.

### Section 2.1 Federal Documents

#### **Policy on Geometric Design of Highways and Streets (Green Book), 7th Edition, September 2018**

*by American Association of State Highway and Transportation Officials (AASHTO)*

Nationwide, the AASHTO Green Book guidelines are used as guiding principles for infrastructure projects. Over the years, their guidelines have become more flexible and more context specific. Pedestrian and bicycle infrastructure standards are summarized in the Green Book. The most recent edition repeatedly recommends the consideration of this infrastructure in all roadway project designs, but the specifications on how to incorporate cyclists and pedestrians in roadway designs are in separate manuals. The language of the AASHTO manual is advisory and encourages flexibility and context sensitive designs.



#### **Best Management Practices and Incentives to Expedite Utility Relocation, July 2017**

*by Illinois Center for Transportation*

This report identifies and recommends best management practices and incentives that can be used by transportation agencies to expedite utility relocation and minimize delays. It is conducted in cooperation with the U.S. Department of Transportation, Federal Highway Administration.

The study identified several incentive practices to help streamline and facilitate coordination during right-of-way projects. It highlights the importance of collaboration and communication between utilities and project members to standardize and smooth the data sharing and requesting process. The study **recommends forming a coordination council consisting of members from the utility companies, government agencies, contractors and other support companies, that meets frequently. In addition, there should be utility coordinators appointed by the state whose responsibility is to coordinate with the facilities for each project.** There should also be a multi-level document or memorandum of understanding between the governments (state and local) and utility companies. **Lastly, utility coordination should be a continuous rather than segmented process that occurs from the planning to construction of the project, avoiding information silos.**

In addition to these best practices the study also gave examples of several financial incentives used by other state DOTs to ensure on-time utility relocation:

- (1) Cash bonuses – money given to utilities for on-time or expedited relocations.
- (2) Incentive/Disincentives – can be set up by a contract structure that provides a utility with incentives for finishing relocation work early, and penalties for finishing the work late.
- (3) Cost sharing – requires the utility to pay a specific portion of any additional costs that go above a previously agreed upon price.
- (4) No excuse incentive – a bonus paid to utility contractor for accomplishing tasks by specified contractual dates, regardless of delays that are normally granted during construction.
- (5) Contractor-provided financial incentives – this incentive shifts the incentives from the ROW owner to the contractor.
- (6) Gainshare-painshare – a collaborative contractual structure that ensures benefits and risks are shared between all parties.

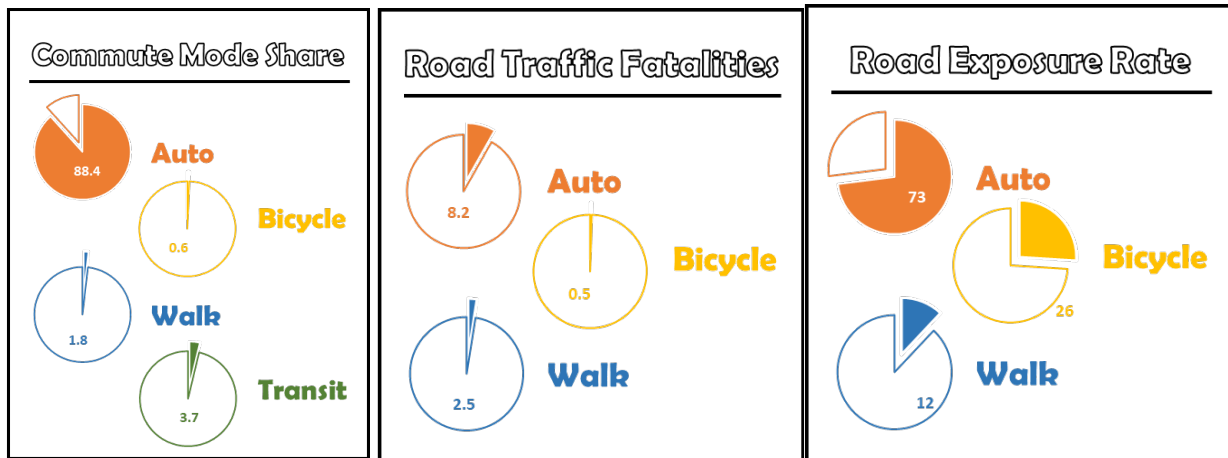
In order to tie these best practices and incentives together, the study identifies other tools that further improve and simplify the project coordination and completion, such as the creation of a utility-cost database that tracks and analyses the relocation cost, electronic permitting system, coordination website, electronic delivery system (to centralize and expedite communication between utility and project members). This study also checks if these suggested practices are compliant to federal regulations and if their application would require an additional cost. Some examples of cost-free practices are the utilization of a utility conflict matrix, advance relocation of utility training (or avoiding relocation), modernization of the utility process, standardization of estimate/bid forms. Other listed examples that would come at an additional cost are the financial incentives, establishment of an electronic utility permitting, utility coordination website, removal of abandoned utilities.

### **Transportation and Health Indicator, 2016**

*by United States of America Department of Transportation (US DOT)*

US DOT developed a tool to measure the impact of the transportation environment on health, active transportation and connectivity. There are three geographic scales for this tool: State, Urbanized Area and, Metropolitan Statistical Areas. It assigns a percentile score for overall performance in the different categories. At the state level they allot a score of zero or one hundred depending on whether it has

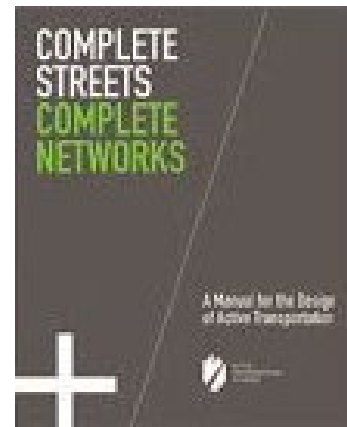
adopted a complete streets policy. Below are some of the scores for the Miami-Fort Lauderdale-West Palm Beach Metropolitan Statistical Area based on their 2016 evaluation.



### Complete Streets Complete Networks Manual, 2012

by National Association of City Transportation Officials

This manual defines the term complete streets and identifies five key elements: Pedestrians, Bicyclists, Transit, Place and Value. Its main goal is to establish design practices, address challenges and coordinate initiatives. It recommends flexible design options, the use of non-traditional methods for network optimization and advise to coordinate with emergency vehicles operators to get their perspective and input. It establishes a context zone characterization format which provides an overview and advises that different types of pre-existing plan and codes be examined when developing a Complete Streets Plan. It introduces multimodal performance metrics and advises planners and engineers to also take qualitative assessment into consideration during the planning and design phases.






The manual outlines the six factors to be considered in the complete streets modeling process: (1) Right-of-way (ROW), (2) Public, Quasi-Public Private Space, (3) Component Zones (4) Land Use Context, (5) Street Network Context and (6) Complete Process. It recommends flexible design options where Road Diets, Lane Diets, Medians and Intersection Improvements should be implemented to retrofit corridors. The right-of-way is divided in three components: the surrounding context, the pedestrian realm and the travel way.






















They also advise to coordinate with emergency vehicles operators to get their perspective and input. It establishes a context zone characterization format which evaluates the housing density, building setback, roadway grid density and transit service provision for urban, suburban and rural development patterns on a scale of Low, Medium and High. For each of the context zones, the manual defines which subzone are encouraged, permitted, discouraged or required, and provides a recommended width range based on the land-use context and street typology. There is a similar matrix to help identify the most adequate





















bikeway and transitway. The manual introduces the concept of floating bikeway, that change in location based on peak commute hours.

			
KEY	Encouraged	Permitted	Discouraged
Intersection and Transition Application Key	Likely to need transition treatments and multimodal signals due to changes in typology or context	Frequently requires transition treatments and multimodal signals; depending on crash rates, ped/bike counts, and vehicle speeds	Seldom requires transition treatments and multimodal signals; depending on crash rates, ped/bike counts, and vehicle speeds

**TABLE 2M PEDESTRIAN TREATMENT MATRIX**

Intersections	Boulevard					
Boulevard		Avenue				
Avenue			One-Way Avenue			
One-Way Avenue				Street		
Street					One-Way Street	
One-Way Street						Alley
Alley						

**TABLE 2N BICYCLE TREATMENT MATRIX**

Intersections	Boulevard					
Boulevard		Avenue				
Avenue			One-Way Avenue			
One-Way Avenue				Street		
Street					One-Way Street	
One-Way Street						Alley
Alley						

The manual establishes some standards and guidelines for bicycle, pedestrian and transit facilities. Reasonable trip lengths for cyclist is 2 – 4 feet and 5 – 6 feet wide bikeways are preferable “assure a comfortable riding way”. For pedestrians, a walking trip under half a mile is considered reasonable and sidewalks should be designed to accommodate at least to people side-by-side. A 15-minute headway for

transit is deemed acceptable however they note that commuters are generally deterred by headways exceeding 10 minutes.

When designing a project, the manual suggests eight benchmarks to measure progress: (1) multimodal comfort, (2) school access, (3) safety for all, (4) active transportation access, (5) crash reduction, (6) crime reduction, (7) positive environmental impact, (8) economic vitality. It advises planners and roadway designers to use more qualitative assessment and substitute the regular Level of Service (LOS) metric with the Multimodal LOS (MMLOS) which takes into consideration bicycle, pedestrian and transit LOS. There bicycle level of service (BLOS) and pedestrian level of service (PLOS) are also considered adequate metrics but the MMLOS is deemed most suitable to evaluate multiple modes. The manual provides a mode hierarchy tool (with accompanying instructions) that assigns a rank to each mode of transportation (walk, bike, transit and auto) depending on the roadway typology and the urban context.

### **Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law (FTA 2009-0052), August 2011**

*by Federal Transit Administration*

This policies states that pedestrian and bicycle improvement projects within a given distance (1/2 mile and 3 miles respectively) of a transit station are eligible for FTA funding.

### **Guidance for Transportation Project Management, March 2009**

*by National Cooperative Highway Research Program (NCHRP)*

This report provides guidelines for transportation project management processes. **It highlights that transportation projects by nature are subject to changes**, and pinpoints utilities and environmental permitting as key delaying factors. The study impresses the importance of developing a strong outreach program that communicates with the stakeholders the need and justifications for changes as well as their impact and to be transparent about how this will affect the budget and schedule.

The report stresses the importance of preparing for crisis **management by allowing enough additional time** and money in the project scope to deal with unforeseen issues with utilities or environmental concerns. The study recommends that transportation projects should have a risk management plan, this is to be reviewed throughout the whole project lifecycle, that outlines the possible risks and how they will be dealt with. They recommend that this plan be developed by the entire project team to ensure that the perspective of all types of experts are taken into consideration rather just that of the project manager. The risk should include those from both external and internal forces. Here are the “universal” risks that the study identified:

- (1) Inability to get required permits in time
- (2) Political or acceptance issues including agreements with other political sub-divisions
- (3) Inability to obtain and/or secure right of way
- (4) Inability to get utilities relocated in time

## (5) Unforeseen site conditions

**The study also recommends that the right-of-way acquisition and utility identification and relocation decision occur during the planning phase (rather than the design phase).** They also recommend assigning a person to coordinate environmental and utility activities. That person should also be in charge in obtaining the necessary permits and serve as a liaison between the transportation agency and the permitting utility agency. Throughout the whole project development process, the study recommends including right-of-way, utility and the permitting staff's input in monthly progress reports and require their participation in monthly project status meetings

The study recommends that the following steps be achieved before a project is approved for construction:

- ✓ Receipt of all permits (including environmental)
- ✓ Right-Of-Way acquisition (including temporary construction easements)
- ✓ Inter-agency agreements
- ✓ Political acceptance for the project
- ✓ Public acceptance for the project

## Section 2.2 State of Florida Documents

The table below, taken from the Local Agency Program Manual (February 2020) summarizes which guidelines should be followed based on project type and scale

Project Classifications	Design Criteria and Standards <sup>1*</sup>	Specifications*	Materials Testing*	Qualifications
<b>Class A</b> On the State or National Highway Systems	<a href="#">FDOT Design Manual</a> , <a href="#">FDOT Structures Manual</a> and <a href="#">FDOT Standard Plans</a>	<a href="#">FDOT Standard Specifications for Road &amp; Bridge Construction</a>	<a href="#">Samples Testing and Reporting Guide</a> and <b>FDOT Materials Manual</b>	FDOT Prequalified <a href="#">consultants</a> and <a href="#">contractors</a>
<b>Class B</b> Off the State and National Highway Systems with an estimated construction value of \$10 million or greater.	<a href="#">FDOT Design Manual</a> , <a href="#">FDOT Structures Manual</a> and <a href="#">FDOT Standard Plans</a>	<a href="#">FDOT Standard Specifications for Road &amp; Bridge Construction</a>	<a href="#">Samples Testing and Reporting Guide</a> and <b>FDOT Materials Manual</b>	FDOT Prequalified <a href="#">consultants</a> and <a href="#">contractors</a>
<b>Class C</b> Off the State and National Highway Systems and includes structural components: <ul style="list-style-type: none"> <li>• a vehicular bridge</li> <li>• pedestrian bridge over a roadway</li> <li>• box culvert meeting the definition of a bridge as stated in <a href="#">23 CFR 305</a></li> </ul>	1) For structures components, use the <a href="#">FDOT Structures Manual</a> and  2) For all other components, use the <a href="#">Florida Greenbook</a>	1) For the structures components, <a href="#">FDOT Standard Specifications</a>  2) For all other components, <a href="#">LAP Big 4 or approved Local Agency Specs</a>	1) For structures components, use the <a href="#">Samples Testing and Reporting Guide</a> and <b>FDOT Materials Manual</b>  2) For all other components, use Local Agency materials testing process	FDOT Prequalified <a href="#">consultants</a> and <a href="#">contractors</a>
<b>Class D</b> Off the State and National Highway Systems, may include structural components: <ul style="list-style-type: none"> <li>• pedestrian or shared use path bridges not over a roadway</li> <li>• box culverts that do not meet the definition of a bridge as stated in <a href="#">23 CFR 305</a></li> </ul>	<a href="#">Florida Greenbook</a>  -Or-  Approved Minimum Design Standards chosen by local agency which conform to the minimum criteria provided in <a href="#">Florida Greenbook</a>	<a href="#">LAP Big 4 or approved Local Agency Specs</a>	Local Agency materials testing process	Local Agency qualified consultants and contractors

1 For structures constructed within State Road right of way, the Department reserves the right to review and approve the bridge concept. In general, spans constructed within State Road right of way shall utilize "form-follows-function" design philosophies. Concept shall avoid non-structural attachments, cables or cladding elements.

Source: FDOT Local Agency Program Manual (revised February 2020)

### Florida Statute 316.515 State Uniform Traffic Control

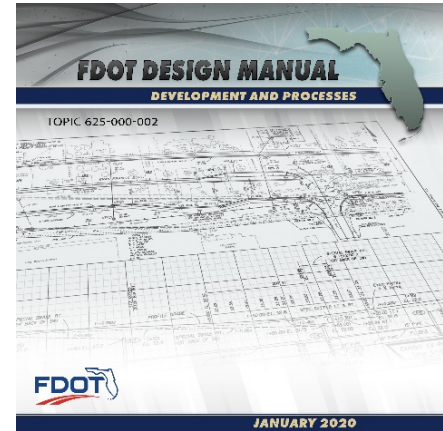
This statute states that vehicles wider than 96" (8') wide may be restricted by Department of Transportation or local officials' access to certain streets or road that do not have through lanes 12 feet or wider. It limits vehicles to maximum width of 102" (8.5').



### **FDOT Design Manual (FDM), January 2020**

*by Florida Department of Transportation (FDOT)*

In 2014 the Florida Department of Transportation adopted an internal Complete Streets Policy. To implement the policy, they committed to integrating this approach in their internal manuals, guidelines and other documents. This resulted in the creation of the FDM in 2017 which replaced the Plan Preparation Manual. The 2018 edition of this manual was recognized as one of the best initiatives in 2017 by Smart Growth America. The FDM is updated on an annual basis and is consistent with national guidelines and reflects the best practices and latest standards. The FDM is divided in three parts, the first provides an overview of project development and processes, the second contains the design criteria and the third details plans preparation and assembly. These guidelines apply to all projects on state and national highway systems.



#### *Pedestrian Facilities*

The manual indicates that above ground facilities should provide 36" of unobstructed sidewalk width, it may be 32" but no less than 24" when there are no practical alternatives and a minimum width of 48" for signals and poles. New, reconstructed or altered sidewalks must be ADA compliant.

#### *Bicycle Facilities*

Bicycle lane are deemed allowable on roadways with design speeds 45 mph or less, but the recommendation is to consider other types of bicycle facilities when the design speed exceeds 30 mph. The manual clearly states that shared used path do not replace on-street bicycle lanes. \*

### **Utilities Procedures Manual, August 2019**

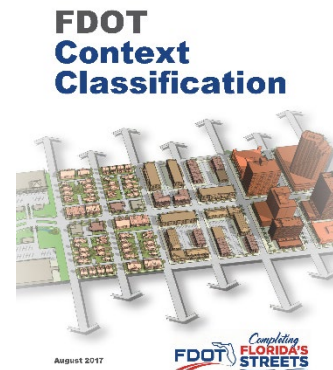
*by Florida Department of Transportation (FDOT)*

Section 3.8 details the utility conflict resolution process and establishes the duties of each stakeholder. Each Florida District has a District Utility Office. Their role is to facilitate coordination with utilities during projects on FDOT Right-of-Way. The district coordinator's role is to help the engineer of record and utility owner identify conflicts. To accomplish this, they provide a conflict matrix (spreadsheet to track utility conflicts) to the engineer.

### Context Classification, August 2017

by Florida Department of Transportation (FDOT)

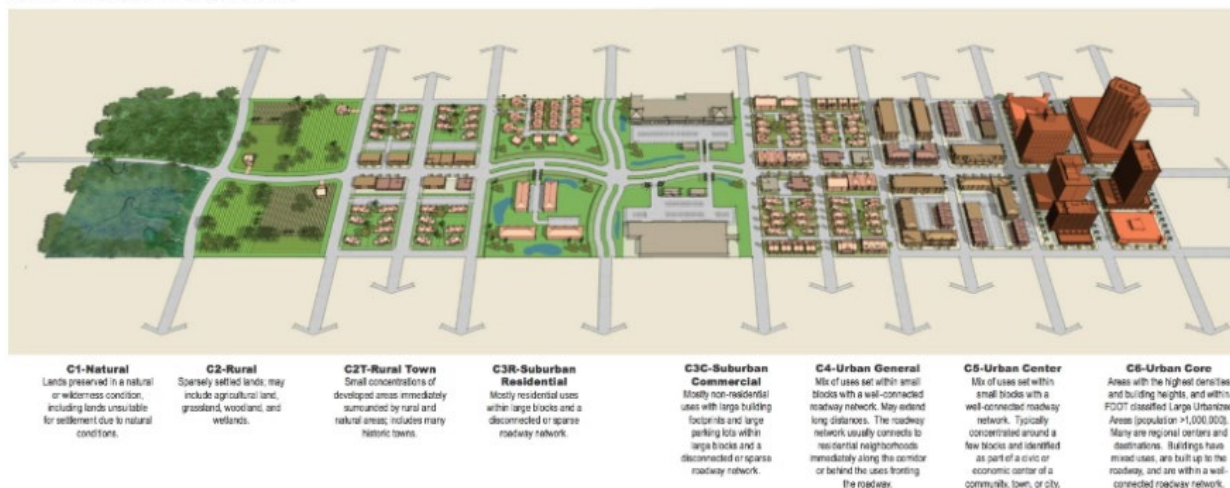
This manual provides guidelines for roadway classification based on the six broad land use categories of the urban transect. There are two types of measures, (1) primary and (2) secondary. Primary measures consist of land use, building and right-of way characteristics. The secondary measures consist of the types of buildings and their density as well as population and employment density. There are examples explaining how the primary and secondary measure values of this process are determined.



There are eight context classifications:

1. C1 – Natural
2. C2 – Rural
3. C2T – Rural Town
4. C3R – Suburban Residential
5. C3C – Suburban Commercial
6. C4 – Urban General
7. C5 – Urban Center
8. C6 – Urban Core

FIGURE 2 FDOT CONTEXT CLASSIFICATIONS



These classifications are consistent with National Cooperative Highway Research Program (NCHRP) best practices and directions and aligns with the SmartCode™ Transect System.

The document contains a table with the types of data that would help to determine the user needs by mode. Need is evaluated not only based on typical demand criteria but also on the safety, quality and comfort that the infrastructure provides or could provide as well as its potential to improve connectivity.

### **Manual of Uniform Minimum Standards for Design, Construction and Maintenance (Florida Greenbook), April 2016**

*by Florida Department of Transportation (FDOT)*

This manual provides design criteria for all projects off the state and national highway system and with an estimated construction value less than \$10 million. The current Florida Greenbook was published in April 2016 and went into effect on June 2017. There is a 2018 draft which was projected to go into effect in 2020. During the last Florida Greenbook Advisory Committee Meeting in March 2019, they were presented the proposed 2020 Greenbook. That revision suggests adding a section on road diets/repurposing in the planning chapter, modifying curb extension guidelines to ranges rather than minimum to encourage context-based design in the pedestrian chapter, adding more design guidelines for protected bike lanes in the bicycle facilities chapter, the addition of new speed management stratagem in the traffic calming chapter and the signs and markings chapter for the low speed zones section. In the traditional neighborhood design chapter, they proposed new intersection sight distance and on-street parking guidelines. Lastly in the drainage chapter they propose green street stormwater practices.

The 2018 revision adds a proposal for reduced design speeds on local facilities regardless of the annual average daily traffic (currently the reduction is only warranted if the AADT is below a certain threshold).

#### *Pedestrian Facilities*

The 2018 revision adds that that new poles or relocated poles have to provide a minimum of 48' of unobstructed sidewalk width. They also require the installation of detectable warning at key locations for sidewalks and shared used path (pedestrian at grade crossing, boarding and alighting areas for bus stops with at grade connection to the roadway).

#### *Bicycle Facilities*

Bicycle lanes must be a minimum of 4 feet wide and they must be provided an additional foot if located adjacent to a curb, barrier, parking or street with high truck traffic (>10%) or posted speed limit exceeding 50 mph.

### **Florida Statute 335.065, December 2015**

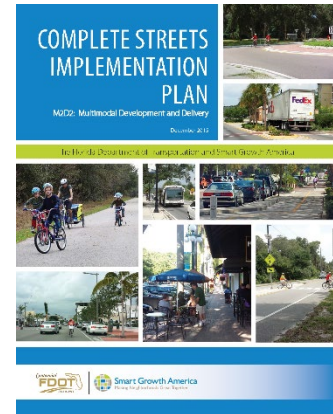
*by Florida Senate*

The statute states that pedestrian and bicycle ways need to be established for projects on state roadways and a special emphasis is given to projects in or within a mile of an urban area.

### **Complete Streets Implementation Plan, December 2015**

*by FDOT and Smart Growth America (SGA)*

FDOT adopted a Complete Streets Policy in 2014 which was developed in partnership with Smart Growth America. The plan proposes five objectives that are spread out in a two-year schedule and process. The elements of this plan sought to modify elements of the Florida Green Book were reviewed and approved by an advisory committee. The plan also proposed new metrics to evaluate the siting of new infrastructures and the performance of existing ones that takes in consideration more context-based and qualitative factors.



### **Complete Streets Policy, September 2014**

*by Florida Department of Transportation (FDOT)*

This policy seeks to promote safety, quality of life, and economic development in the state. It will be integrated into all FDOT internal documents governing the planning, design, construction and operation of transportation facilities. This policy went into effect in September 17, 2014. The most recent Florida Green Book contains additional complete streets elements. A notable consequence of this policy is the addition of a 'no turn on red' when there is a bike box present at the intersection which would meet the IA.18 (FHWA, MUTCD – Interim Approval for Optional Use of an Intersection Bicycle Box (IA-18), October 12, 2016).

### **AWARD: Best Complete Streets Initiative 2017: Baltimore Maryland**

*By Smart Growth America (SGA)*

In 2018, the city passed a Complete Streets ordinance that created a permanent advisory committee responsible for the implementation of complete streets. It requires the publication of an annual report to track and monitor Complete Streets implementation. The advisory committee duties are to aid interagency coordination and cooperation in project identification, funding and planning, review projects proposals and recommending projects to prioritize to the transportation director.

The ordinance uses mandatory language and adopts the latest design standards by NACTO, AASHTO, FHWA, ITE, and NCHRP on context sensitive multimodal street designs standards and bicycle and pedestrian facilities design guidelines. The ordinance applies to all the projects undertaken by the department of transportation or any roads under its authority except for maintenance repairs.

#### **OUTCOMES:**

As a result, the Baltimore City Department of Transportation added a Complete Streets page on the website and are developing a Complete Streets Manual. The initial draft will be published in April 2020 for public comments. It contains modal hierarchy, street typologies, a new project prioritization and



delivery process and emphasizes equity in community engagement. The manual sets lower lane width minimum (10 feet but 9 feet preferred) and adds lane width maximum for local streets and transit/truck routes. The advisory committee held six meeting open to the public to date and have publicized their meeting notes and agenda.

### **Mitigating Highway Construction Impacts Through the Use of Transit, May 2013**

*by Minnesota Department of Transportation*

Minnesota Department of Transportation (MnDOT) and the Duluth Transit Authority (DTA) worked in partnership during the construction of Duluth Megaproject highway construction to promote transit to commuters. They added more trips and park and rides and offered free fares to increase the appeal of transit to travelers. They also dedicated bus lanes to reduce travel time and organized a big promotional campaign to inform new travelers. Commuters who used the transit services continued using services, even after construction concluded (less than 15% reverted to driving).

### **Pre-Contract Project Scoping Process: Synthesis of Practices, February 2016**

*By Indiana Department of Transportation and Purdue University*

This study interviews several state highway agencies (SHA) throughout the US to inquire about the project scoping, development and evaluation processes. It found that there were no common scoping practices used by the different SHAs however they identified key elements that help streamline the process:

- Multidisciplinary input during the scoping phase either via meetings or review committees.
- Utilization of a fine-tuned cost estimator that considers historical data and assesses project specific risks.
- Thorough scoping phase that has multiple checkpoints where the budget and overall plans are reassessed.
- Defining a process for scope creep assessment and evaluation.
- Engaging the public throughout the scoping process with an online project management and data sharing process.

The Florida Department of Transportation (FDOT) is presented as an example SHA that successfully developed a good scoping process as defined in their PD&E Handbook, with good public engagement and multidisciplinary project review process. The study also mentions FDOT's Long Range Estimate which is an in-house tool that gives a cost snapshot for projects that will be included in the 5-year work program. The study states the FDOT scoping evaluation process consist of calculating the difference between the initial estimate and the awarded amount. FDOT does not have a very clearly defined scope creep process. The project manager oversees this matter throughout the life of the project and can make adjustments for justified supplemental funds by creating a new agreement. FDOT uses Project SOLVE for project management and Project SUITE, a web-based sharing program, for data exchange.

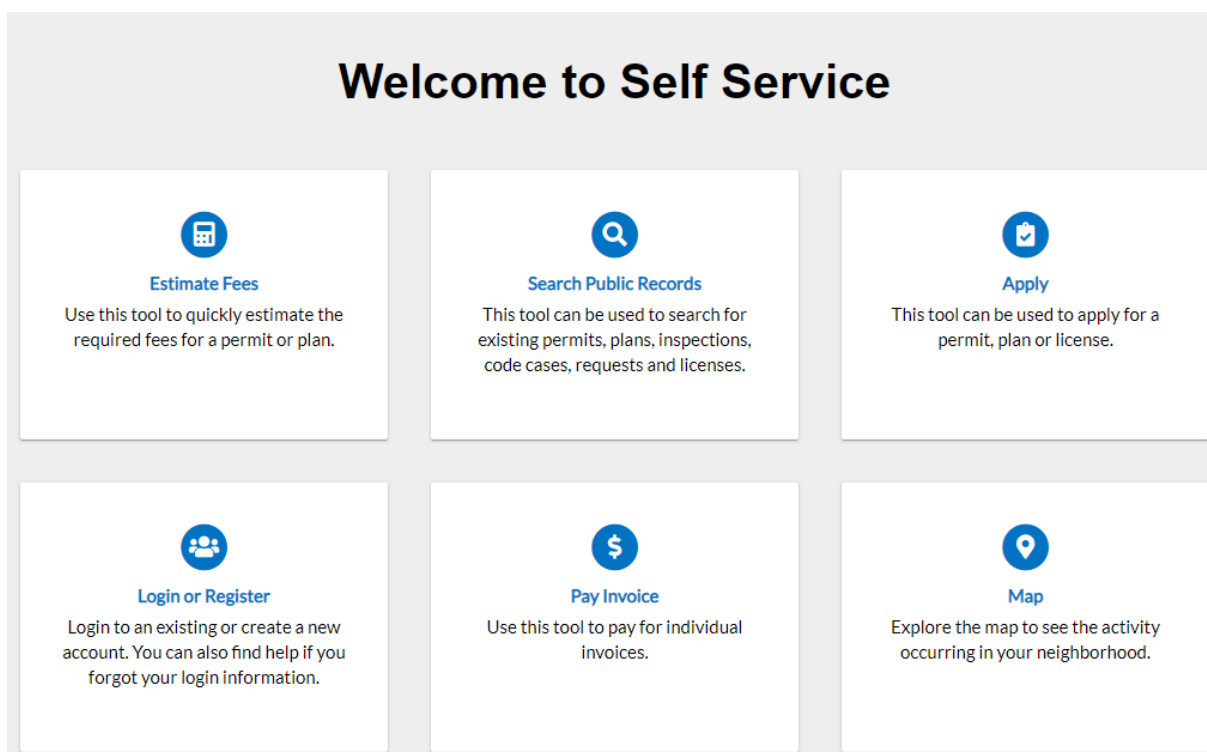
## Section 2.3 Miami-Dade County Documents

### Comprehensive Development Master Plan (CDMP), January 2020

by Miami-Dade County Regulatory & Economic Resources Department (RER)

The CDMP regulates the future land use of the county and is divided into twelve elements. There are many objectives that promote development near mass transit and encourage the improvement of pedestrian and bicycle infrastructure. Every seven years the CDMP undergoes a major review update process based on the Evaluation and Appraisal Report (EAR), however, individual portions are continually updated throughout the year during the three CDMP cycles. Updates are conducted through established amendment processes. These amendment processes are managed through RER's EnerGov software.

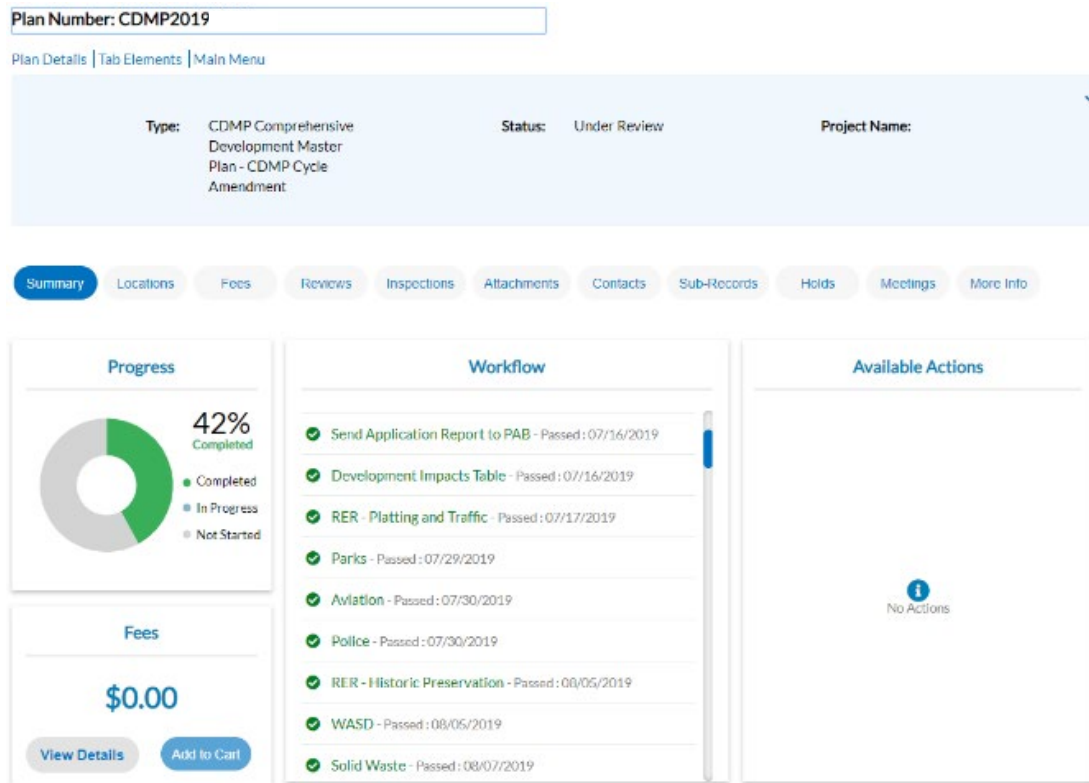
EnerGov, 2016



Miami-Dade County RER began using EnerGov to streamline their CDMP Amendment process. Every time, there is a requested change to the CDMP, over half a dozen agencies must submit staff analytical reports and recommendations which are then reviewed by several boards of publicly elected or appointed officials (CC, PAB, BCC). Significant volumes of information flows between the applicant, RER, other MDC departments and the different public boards and council members through EnerGov.

To centralize communication, each entity submits their information to EnerGov. As the review process proceeds, progress updates are made available to the public. This platform is hosted on RER's website. Members of the public have access to this platform to request plans and apply for permits and license provided by the department. There is also a fee estimator tool, an invoice paying portal and public record

search database link. EnerGov is customizable and flexible and they provide training for local governments.



### Florida MPOAC Complete Streets Best Practices 2017-2018, July 2018

by Florida Metropolitan Planning Organization Advisory Council

In 2011, Space Coast Transportation Planning Organization (SCTPO) developed a complete streets policy and created educational resources for the municipalities. Afterwards, in 2014, the SCTPO created a Complete Street Project Implementation fund. They developed a Complete Streets policy, Guiding Principles and Project Implementation Criteria.

SCTPO set aside three years (FY 15 - FY 18) of Transportation Management Area (TMA) funds worth a total of \$20 million for Complete Streets Projects. The SCTPO required municipalities to adopt a Complete Streets Policy to be eligible to request money from the fund. They established a template policy to ease implementation and created a Complete Streets evaluation process (Complete Streets Evaluation Methodology Development and Project Screening Study) for the project which consists of three phases: project identification, project feasibility and project selection. The SCTPO provides monthly updates on their achievements and events, while their website contains some project status information but does not provide any performance measures.

Since 2011, over a dozen municipalities and counties in the Space Coast region have adopted a complete streets policy/resolution or have amended their comprehensive plan to include complete streets principles. The SCTPO added 'Complete Streets' as funding category in their Transportation Improvement Program (TIP). Over the years, the TIP complete streets project category definition has changed to now include landscaping, sidewalks and trail projects. Consequently, it makes it hard to track the changes in

number in funded complete streets projects in this manner. In their the latest TIP (TIP 2020-2024) adopted in July 2019, they had fifteen complete streets project worth a total of \$16.95M.

### **First Mile – Last Mile Options with High Trip Generator Employers, January 2018**

*By Miami-Dade County Transportation Planning Organization (TPO)*

This study explored options to implement or extend first/last mile options in the service areas surrounding high capacity transit corridors. This effort promoted the goals of increased transit ridership potential; reduced roadway congestion; reduced greenhouse gas emission; and improved overall welfare of the community by reducing travel time, stress, and cost to commute. The study also contains a toolkit of practical context sensitive solutions to implement first/last mile mobility. Perhaps we can name a few of these tools here

### **Complete Streets Design Guidelines, January 2017**

*by Miami-Dade County*

These guidelines were developed by Miami-Dade County Safer People Safer Streets Local Action Team containing different governmental agencies, universities, private firms and non-profit.

They provide context-sensitive policy and design guidelines for all types of entities involved in street projects. These guidelines are in adherence with the ASSHTO and Florida Green Book guidelines. The manual recommends several changes to the Public Works Manual. These changes aim to make the language of the requirements more flexible and context sensitive. The manual also states that changes need to be made to existing regulatory standards and that all existing plan should be consulted for overlapping and competing priorities. They do not provide any instructions on how to prioritize nor what regulatory changes need to be made however, they do provide a template Complete Streets Policy for each municipality to use as a framework. This manual was adopted by the BCC on June 2017.



## Chapter 3: Stakeholder Interviews

The study team met with individuals who work in the project development process to collect feedback and develop an understanding of how projects are conceived, planned, designed, and built in the county. The team spoke to individuals working for private sector firms, and public agencies at the state and county levels. The feedback received in these conversations is summarized here and was used to shape recommendations in the later sections of this report.

### Section 3.1 Department of Transportation and Public Works (DTPW)

#### Traffic Management Division

The study team met with a senior-level engineer in the Public Works section of DTPW to better understand how the department plans and builds transportation projects. DTPW is also responsible for reviewing road closures for construction project Maintenance of Traffic (MOT) plans.

##### *Maintenance of Traffic*

Not all municipalities require contractors have their MOT plans vetted by County. The County neither has the authority to mandate this oversight on non-County roads, nor does it have enough staff to review all the MOTs that would need review.

Complicating the coordination challenges is the fact that the County issues closure permits that are valid for one year. This gives contractors broad latitude in when they conduct their work; road-closing construction can occur during any portion of that year. The County is considering limiting scope of closure to a fixed (finite) period that could be triggered within a 365-day window, however this has not yet occurred.

The County is taking steps to centralize documentation related construction projects. This is being achieved by aggregating GIS layers that depict permits from FDOT, municipalities and WASD. DTPW's concern is that unless closures are mandated to be submitted to the County, the effectiveness of this coordination will be limited.

##### *Project Development*

While the Public Works Highways Division has a work program that serves as a project pipeline, the Traffic Division has a more reactive approach, given its focus on operations. Traffic projects originate from citizen (3-1-1 requests) and commissioner feedback.

##### *Road Impact Fees (RIFs)*

RIFs may only be utilized for capacity improvements. Crosswalks are eligible, but parallel facilities projects face scrutiny and often are not eligible for RIF funding. The TPO Governing board must approve these projects. The Underline has been an exception since it is a multimodal improvement that was able to demonstrate an ability to relieve congestion on the US 1 corridor. The county is evaluating the implementation of Mobility Fee to supplement funding across all travel modes including vehicles, transit, pedestrian and bicycle. The County is currently going through workshops and the study will be completed in May 2021.

### **Conversation with DTPW – Transit**

DTPW does a large amount of work on many different fronts, and the need to keep these efforts synchronized means that DTPW must work on improving internal coordination. This also applies to projects that could have impacts from other public sector agencies. For instance, Water and Sewer and FDOT could all have related projects that would be best implemented with a synchronized schedule to minimize neighborhood impact and optimize the construction costs.

#### *Develop a Work Program*

DTPW would like to formalize a longer-term work program schedule, emulating the approach taken by FDOT. A longer planning horizon (e.g. 5 years instead of 1), could maximize efficiencies within the program, facilitate coordination with partner agencies and other county departments, and provide a stronger sense of predictability to county projects overall.

#### *Scoping Process*

The hope is to establish a scoping process that streamlines project development processes. A scoping program would entail the following: meeting with a commissioner at the beginning of the project to understand the community needs. Such an upfront conversation would be critical for minimizing project delays at a later point, thereby minimizing potentially costly delays. The scoping process is designed to be data-driven, defines what a project is expected to be, and not to be. A thorough scoping process can also be used to kick-start the permitting process. Giving the commissioners this comfort with a project should bring a degree of peace of mind that should enable the project to proceed seamlessly.

If implemented, the work program and scoping efforts are expected to shave a significant amount of the project programming process. To test its effectiveness, DTPW could implement it as a pilot on one or two projects. Assuming the pilot is successful, the approach could be rolled out for a broader implementation.

#### *Utilities*

Drawing comparisons against FDOT's process – the County has encountered difficulties coordinating with utility companies. FDOT is proactive to ensure conflicts are avoided. Utility conflicts (99% of the time) are identified by the time engineering designs reaches the 60% phase on FDOT projects. This is accomplished through a combination of as-builts, and, when necessary, soft digs to identify precise nature and location of conflicts. Prior to construction start, FDOT obtains utility work schedules, through which utility companies commit to a fixed schedule for when their utility conflicts will be relocated from the right of way. This approach enables FDOT to manage construction efforts more effectively.

The county has not managed relationships with utility companies as proactively as FDOT. Utility work schedules have not been maintained, and projects can often be delayed by utilities, sometimes as much as six to nine months. Utilities have not felt the same urgency to collaborate with the county – utilities have typically provided feedback at the 90% design stage, (contrasted with the 60% for state projects).

### **Public Works Engineer**

#### *Procurement Schedules*

One of the frustrations expressed by stakeholders from across the spectrum is the amount of time it takes for a project to go from procurement to construction. County rules require construction projects with a dollar value of more than \$5 million to be approved by the Board of County Commissioners. The time it

takes to get an item to make its way through procurement, then to navigate the legislative process to be heard by the BCC adds months to the process. It takes an estimated 10-12 months for these larger projects to go from procurement to construction.

Some feedback received from interviewees noted that FDOT's procurement process is more efficient than the County's. However, they are a nimbler organization. With a narrow focus on transportation infrastructure projects and a procurement department that is solely focused on transportation, they can conduct a more streamlined operation. On the other hand, DTPW must operate within the framework of the county at large, which requires collaboration with other departments that must balance priorities from multiple internal clients.

#### *Construction Schedule Alignments*

There have been efforts to better coordinate projects within the County to streamline construction activity. When work programs for different utilities and public works departments are aligned, construction schedules can be shortened, cost reductions are achievable, and construction impacts can be minimized. The County does make good-faith efforts to coordinate construction projects. Memos are circulated to partner departments and agencies to align work schedules, but coordination is not always possible. An overlapping project might be announced at the last minute, or a project may need to be accelerated due to an emergency repair.

#### *Utilities*

Utility coordination issues were brought up by many individuals interviewed. FDOT has an advantage over the County: State law compels utilities to coordinate with the state at an early stage of a project's design. Lacking this leverage, it is not unusual for a utility to provide feedback once a design is completed. Any conflicts identified at such a late stage of the design has the potential to either delay a project's final design, or to pose problems during construction, when delays have more tangible impacts on the county's resident and businesses.

#### *Complete Streets*

Complete streets are limited by the availability of right-of-way. When County streets were platted, full section streets were provided with 80 feet of right-of-way, while half-section streets were given 70 feet. Cities that have implemented complete streets typically have more right-of-way to work with. The County's sections are not wide enough to allow for inclusion of travel lanes, turn lanes, transit lanes and bicycle facilities. Therefore, sacrifices must be made. The County would either have to acquire more right-of-way to provide more complete streets or sacrifice a general-purpose lane to cater to other modes. Assigning streets with discrete uses can be an approach to consider. Half-sections could be bicycle facilities, while full sections could be transit corridors, for example.

## Section 3.2 Florida Department of Transportation (FDOT)

#### *Project Expediency*

Project Delivery processes have struggled to keep up with demand and growth in Miami-Dade, as the entire process from planning to construction can take 10 years. Projects that are designed to increase capacity and relieve congestion are typically at capacity as soon as they are open. FDOT would like to



accelerate delivery of capacity projects. One potential approach is to overlap PD&E and design phases. FDOT could assign initial 30% of design to the PD&E firm. FDOT is looking at expediting procurement processes by a couple of months – going from 5-7 months to 4-6 months instead. The Statewide Acceleration and Transformation team (SWAT) was mentioned which is FDOT’s streamlined process for design projects management infrastructure.

### *Utility Coordination*

FDOT is having a statewide conversation about how to improve utility coordination efforts. There are significant challenges on this front – chief among those is the fact that utility accommodation is legislative in nature – when local municipalities and FDOT try to regulate utilities, elected officials have stepped in and preempted those controls. This has given utilities broad latitude to conduct business as they see fit. Relationship building and coordination is necessary in order to streamline these processes

Key examples of this include utility markings on pavement – City of Miami tried to restrict this work to be done with water soluble paint, but utilities had this preempted by the state. 5G tower installation has also had a regulatory “streamlining” facilitated by legislative action.

FDOT is implementing an Urban Reconstruction Policy that has been largely based on the lessons learned from the significant complications for businesses and residents in Little Havana caused by the Flagler / SW 1<sup>st</sup> Street project. Key changes to FDOT policy include guidance and requirements for testing utilities, which will require a phased approach in urban settings. Testing will also be required as necessary to minimize construction impacts. Additionally, the Urban Reconstruction Policy will restrict work to approximately 1,000-foot segments.

### *Right-of-way (ROW)*

Right-of-way acquisition is a critical path step that design is dependent upon, and that process can take up to two years or longer and more complex projects.

### *Permitting*

Project delays have been incurred when navigating the Federal regulatory framework. Projects in South Florida frequently require US Army Corps of Engineers and US Coast Guard permitting, particularly projects that have an impact on Federal Waters. These permits can take months to obtain. FDOT is unsure if the delays are tied to limited allocation of resources (insufficient staff to process all permits on a timely basis), or if the delays are related to the process itself.

FDOT has had better success navigating State-level processes. This can be expected, as these are effectively “peer” governmental entities. FDOT maintains good relations with the South Florida Water Management District (SFWMD) and the Department of Environmental Protection (DEP).

### *Maintenance of Traffic (MOTs)*

FDOT likes the model that City of Miami Beach has implemented – an effective public notification process of roadway closures. Miami Beach uses geographic information systems (GIS)-based tools combined with social media to spread the word about closures and their anticipated impacts on commutes. However, this process isn’t focused so much on coordinating closures as it is on notifications. Miami Beach also hosts a monthly stakeholder forum with public information officers to coordinate closures.

FDOT has internal MOT tools, but they are not designed for use by the public. FDOT MOTs are usually restricted to FDOT projects, which fall on FDOT facilities. Therefore, having them serve as a central repository for closures would be of limited benefit.

#### *Coordination with the County*

FDOT and Miami-Dade County have a positive working relationship on project reviews. County would assign a point person that would shepherd FDOT projects through County review processes. Changes in personnel have disrupted this system, to a limited extent. This presents an opportunity to have a centralized database for project reviews, so that it is not so wholly dependent on an individual engineer at the County.

### Section 3.3 Friends of the Underline

Extensive and exhaustive public outreach was at the root of the success of the Underline Project. The Underline team held three series of public meeting listening sessions to ensure ample responses during the planning stages. To ensure this effort was successful, the Underline team hosted meetings at varying times of day, on weekdays and weekends. This approach resulted in diverse responses from a broad cross-section of society. The team also utilized survey monkey and community boxes to collect input throughout the process.

#### *Multi-Jurisdictional Challenges*

A significant challenge for the Underline has been the cross-jurisdictional nature of the project. The Underline's footprint is within the Rapid Transit Zone (RTZ), a unique zoning designation which follows the Metrorail system, and keeps this land under the county's purview. However, stretches of the project will require ROW concessions from adjoining municipalities. To ensure seamless collaboration of all parties, the County and the municipalities enacted interlocal maintenance agreements. Approvals include county and municipal operational maintenance agreements, which have been enacted by the Underline conservancy, a 501C3.

Other issues encountered on this project include cross-jurisdictional construction coordination along municipal streets, pedestrian maintenance of traffic access during construction.

### Section 3.4 Miami-Dade Department of Regulatory and Economic Resources (RER)

The study team met with a senior representative from Miami-Dade County's Department of Regulatory and Economic Resources (RER). The purpose of the meeting was to obtain insights into how RER handles Comprehensive Development Master Plan (CDMP) amendments and zoning application reviews. Of note – RER has a process that is transparent, well-defined, and systematized for input from stakeholders within and outside of the County.

#### *Background*

When a developer requests a change to the zoning for a parcel or wishes to modify the land use for a proposed development, they must go through the prescribed RER amendment cycle process. RER provides guidelines to developers to ensure that the requested amendments are consistent with what has been

laid out in the County's CDMP. The CDMP lays out *"where and how [the County] intends development or conservation of land and natural resources will occur during the next 10-20 years, and the delivery of County services to accomplish the Plan's objectives."*

### *Application Process*

The County Planning Department will sit down with developers before an application is submitted (Pre-App Meetings) to lay out expectations/requirements (traffic studies, surveys, etc.). Laying out the groundwork at the beginning of the process sets expectations for all parties and ensures that applicant and County can work towards a common goal. The County engages in three CDMP amendment cycles per year, but also allows applicants to file at any time for an expedited cycle. The expedited cycles have tighter deadlines for reviewers, but also require applicants to pay higher fees.

On the County side, the amendment processes is collaborative. It requires the review and input of numerous departments within the County, as well as feedback from other jurisdictions where appropriate, such as the State, and relevant municipalities. These comments are submitted to RER and provided as feedback to the applicant. Reviewers are given deadlines within which they must provide their feedback, which ensures that the amendments stick to defined schedules.

The County can make recommendations, which urge action by the developer but have limited enforceability. More restrictive are the Declarations of Restrictions. Projects can be approved with said declarations, which serve as requirements on the developer to obtain ultimate project approval.

### *EnerGov*

To centralize the feedback process, RER uses a software called Energov. The software facilitates and streamlines reviews by the partnering departments by centralizing the responses received in one location. The software is an enterprise workflow application that is highly customizable. It can be used to connect processes, starting at the planning process and going through permitting and construction, thereby reducing the potential for projects to get 'lost' in situations where oversight may switch from one department or regulatory agency to another.

## Section 3.5 Private Sector Roadway Design Engineers

The study team spoke with roadway design engineers who work for a private sector firm. They shared perspectives on the challenges they encounter in designing projects.

### *Traffic Control Devices*

When designing bicycle infrastructures, engineers are limited by the county's list of approved traffic control devices – the list of traffic control devices is maintained by DTPW. Traffic control devices are also reviewed and vetted by FDOT, and by the FHWA. The County could accept items from these lists by incorporation to broaden the types of treatments that could be used in Miami-Dade to improve roadway safety for vulnerable users.

*Planning Phase*

Projects in the FDOT pipeline follow a generally prescriptive planning process. These must go through a Project Development and Environmental (PD&E). These studies consider financial, social, and political factors in addition to engineering concerns.

An alternate approach is to revise the scope of the results of the PD&E process to include a complete streets alternative. This alternative must have considered pedestrian and cycling infrastructure where appropriate. Although projects on state facilities are required by state statute to consider bicycle and pedestrian infrastructure, said consideration does not necessarily result in the addition or improvement of pedestrian and/or cycling facilities. If bicycle and pedestrian facilities are not included in the recommended alternative, they will not be included in the design stages, since this second step is focused on providing greater specificity and detail to the recommended alternative.

*Utility Conflicts*

Utilities frequently pose challenges to project designers. Inaccurately marked utilities are common, as years of lax enforcement on utilities lowered the threshold for what was deemed an acceptable as-built standard. The as-built drawings submitted was described as a line drawn on an aerial image of a street, with little to no parameters about precise alignments. When construction projects rely on inaccurate locations for potentially conflicting utilities, this inaccuracy can result in construction delays, which compounds inconvenience on residents and business owners where work is occurring.

*As-Builts*

Upon project completion, contractors are required to provide project as-builts – depict the finished project, with any variations that occurred. These are often rushed, as budgets have been depleted. The rushed nature of some as-builts results in a degradation of quality.

*Design Standards*

While the design standards for the State of Florida are outlined in the FDOT Design Manual which is continually updated and publicly available, county design standards are less consistent. Some standards are based on 50+ year old FDOT standards which have since been revised. Although they frequently update some standards, the new data is not readily available, and engineers are sometimes not made aware of changes until they are notified that their design is not in compliance with the latest County Standards. Many of DTPW's most current standards are not available on its website. Because there is no central clearing house for data, information is dispersed throughout the organization and there is no formal procedure to obtain the latest data nor to verify that you have the most current standards. New standards are typically given to engineers in physical, rather than digital formats.

*Utility Location and Relocation*

When the engineers need to locate the existing utilities in the project area, they must first obtain a list of known utility operators from a "call before you dig" hotline, and then manually retrieve each piece of data that they need. The lack of an official, common, online database for engineers to access this data causes delays in the design process because the engineers must spend an additional amount of time coordinating with DTPW to obtain the standards, then later verify with different sections to ensure that they have they obtained the most up to date information.

### *Scope and Budget*

Projects budgets are often given small allocations for tasks such as utility locates, and post-construction as-built plans. Data obtained from the utilities varies in accuracy and quality. As a result, utility locates need to be done where there is insufficient data within the project area. Often, there is little money provided in the budget for the surveying. The surveyors cannot use the most efficient tools or do not have enough money left in the budge to request the tools when they are needed because the county requires the submission of the tool request before the initial designs have been completed. This results in final designs based on imperfect background information. To curtail and minimize the impact of “unknown-unknowns” on the design and later construction process, FDOT reaches out to the utilities during each steps of the design phase and allows them a limited time to respond if an unforeseen utility is located on their site during construction, before they unplug, disconnect, or remove it. Despite the effort, this practice still results in delays because the construction must be halted for a redesign or so that the utility infrastructure can be removed and relocated. At the county level, there is no such procedure, resulting in projects where the utility stalls or terminates a project that had been approved, funded, and under construction.

These issues can compound over time: at the end of a project, constrained budgets can result in as-built drawings which are not accurate because there was not enough budget to revise them after minor adjustments are made by construction crews. The skillsets required to produce accurate, high quality engineering design drawings are underestimated, thus leading to an insufficient fee estimate at the initiation of the project.

### *Utility Coordination*

There are no utility infrastructure data requirement and standards, so the data quality and format are inconsistent. The utility permitting requirements are not enforced and the placement of their infrastructure is not sufficiently regulated.

### *Construction Phase Utility Conflicts*

The discovery of unforeseen utility infrastructure delays and sometimes completely halts the construction process, as described above in the section on Design Standards.

## **Section 3.6 Stakeholder Interview Summary**

The information obtained from the interviews covered myriad topics. However, there were several common themes that emerged from these conversations. These can be classified into the following categories:

- A need for more complete Utility Coordination and conflict resolution.
- Better-defined Project Development process – Project Scoping and Work Programming.
- The county should implement better processes to implement alternative transportation projects (bicycle lanes, pedestrian scramble walking, bicycling) project development processes, to ensure that more vulnerable road users are considered in the process.
- Improved cross-jurisdictional coordination and construction schedule timing to limit the incidence of repeated construction impacts on communities.

## Chapter 4: Best Practices

### Section 4.1 Seattle, WA



Seattle is one of the fastest growing major cities in the country faced with the challenges of adapting their streets to accommodate multimodal systems while remaining efficient, safe and attractive. In 2006 the City Council passed a complete streets policy (resolution 30915) which was supported the following year by an ordinance that elaborated on the stipulations of the policy. To ensure the implementation this concept, Seattle Department of Transportation (SDOT) published a Right-of-Way Improvement Manual, titled “Seattle Streets Illustrated”, to provide design guidance and standards, define processes for designing, building and managing the right-of-way. All SDOT projects undergo a complete streets assessment in the early design phase that aids in the identification of specific improvements that should be incorporated to balance the needs of all users.

The department collects performance metrics for each mode to the extent which they met their goal, and if they improved user’s experience. When developing the initial project scope, the project developer (for projects over \$500,000) must complete the City’s [Complete Streets Checklist](#) which guides them through a review of existing conditions, policies, planned and future projects throughout the city.

The first step of this checklist is to examine SDOT project and initiatives to see if there are any opportunities for coordination. That information is aggregated in the city’s [Complete Streets Story Map](#), which is the extensive data repository that the developer references during this process and it provides them contact information and direct links to key resources to facilitate planning and coordination efforts and other web maps on their portal. The project developer must then identify the street(s) classification(s) in the project area and the right-of-way widths. Afterwards they must evaluate the safety and channelization elements and if there are high collision locations and planned Bicycle and Pedestrian Safety Analysis priority locations in the project areas or major transit network operating

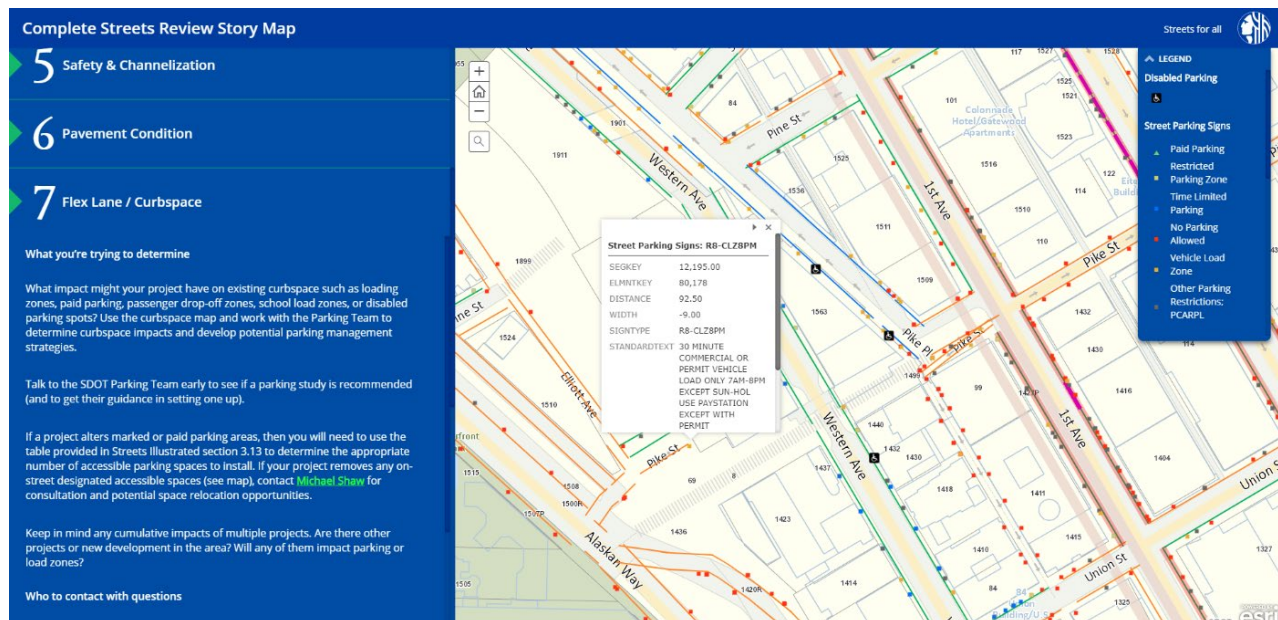
#### Complete Streets Checklist

1. Purpose of the Complete Streets Checklist
2. Complete Streets Review Story Map - Getting Started
3. Project Coordination
4. Street Classification & Type
5. Safety & Channelization
6. Pavement Condition
7. Flex Lane / Curbspace
8. Signals & Intelligent Transportation Systems (ITS)
9. Pedestrian Infrastructure
10. Bicycle Infrastructure
11. Transit Infrastructure
12. Freight Infrastructure
13. Urban Forestry
14. Urban Design and Planning
15. On-Site Stormwater Management
16. Art



## CHAPTER 4: BEST PRACTICES

in the project area they must contact the Vision Zero division to discuss traffic calming options and/or Transit and Mobility division to obtain their recommendation. If the project area has four or more through lanes and the Average Weekday Traffic doesn't exceed twenty-five thousand, they must contact the Traffic Operations division to review possible rechannelization. The following step consist of reviewing the pavement condition index and identifying the areas of visible disrepair in the roadway if they score 65 or below.



The manual consists of six chapters. The first provides an overview and states the vision, purpose, authority and approach of the manual as well as defining the roles and responsibilities of the different departments of the city. The second identifies and outlines the standards for each street type. The manual provides a streets type maps which defines 12 categories of road, and depicts key boundaries (e.g. pedestrian zones, urban centers, and downtown areas). The manual also denotes if the streets have wide curb lane requirements, whether they are primary routes for emergency response vehicles, and if the streets are included in any master plans (e.g. bicycle pedestrian, freight, and transit). The manual spells out the requirement for maintenance of traffic during construction.





**Work Zone Traffic Control and Safety (WSDOT Maintenance Manual M 51-01.06), April 2017***Utility Management and Coordination*

WSDOT has designated a group of engineers, managers and specialists for each region to facilitate the coordination with utilities, and listed their contact information in an online directory. If utilities want to occupy WSDOT right-of-way, they must submit a utility accommodation application. When WSDOT project will impact a utility's infrastructure, they must enter into a project development agreement with the utilities.

The state has a Utilities Coordinating Council (WUCC) which has been established since the early seventies. They are area director that oversee several counties in a region. Their platform allows individuals to submit complaints by citing the violation. They hold monthly meetings and offer training and events to educate and ease coordination between the different stakeholders such as contractors, construction and maintenance supervisors, managers of public and private utilities, public works department, etc.

### Section 4.3 New York City DOT

As the largest and most active city in the United States, New York faces the most intense challenges in designing and maintaining their transportation network, and accordingly New York City DOT has developed some of the best tools for addressing these challenges. The tools are designed to work together, including the Sustainable Streets Initiative, Street Design Manual, and studies such as "Measuring the Street: New Metrics for 21<sup>st</sup> Century Streets"

**Sustainable Streets: 2013 and Beyond**

The report places roadway projects into five categories: safety, mobility, world class streets, infrastructure, and resiliency. The safety projects that were most successful are those guided by goal-oriented policies, that assign responsibility to transportation system designers rather than the users. Such projects are intended to meet set annual targets to achieve the defined goals. The study quantifies traffic crash cost by taking in consideration the financial impact of severe injuries or fatalities on household livelihood. The department correlates the impact of safety on mobility, especially for vulnerable road users such as children and elderly. For many of their mobility and world class streets project, public engagement results were key push factors for their implementation. Many transit projects addressed both the issue of increasing mobility access and traffic congestion. One interesting finding from this study was the fact that many pedestrians opted not to walk in certain areas due to their difficulty orienting themselves. Thus, the city added more wayfinding elements for all modes to ensure that the roadway users can easily reach destinations using various mode throughout their journey. Curb zone and street parking were highlighted as being essential aspects of the roadway to manage because of their ability to affect conflict zone between different types of road users and the level of congestions in the roadway.

**The Street Design Manual**

This manual was first published in 2009 and last updated in 2015. The purpose of this manual is to supplement existing guidelines, standards, regulation, laws, rules and requirements provided by Geometric Design of Highways and Streets (AASHTO "Green Book"), Manual on Uniform Traffic Control Devices (MUTCD), and ADA Standards for Accessible Design.

The goal of the street design policy is to ensure a consistent level of quality and functionality while resolving conflicting priorities in limited street space.

NYC DOT's overall goals and principles are (1) design for safety, (2) design to balance local access and mobility, (3) design for context, (4) design streets as public spaces, (5) design for sustainability and resiliency, and (6) design for cost-effectiveness.

These policies are meant to be the foundation of designs for all projects that have a significant impact on public and private streets in the city. The DOT is tasked with reviewing projects to verify that they are consistent with this manual.

There are six chapter in this manual. The first chapter describes how DOT projects are conceived, planned, designed, and implemented. They categorize the projects in two groups (1) Operational Projects and (2) Capital Projects. For both types, there are three major phases to this process (1) Origination, (2) Planning & Design, and (3) Implementation/Construction. What are the other five chapters? If they are not necessary, then rewrite the paragraph with just the first chapter considerations.

The Street Design Manual provides a visual diagram that identifies which agencies plays what role in the operation, maintenance and repair of different elements in the pedestrian realm to facilitate coordination efforts.

### **Measuring the Streets: New Metrics for 21<sup>st</sup> Century Streets**

In this report, the New York City Department of Transportation uses various metrics to evaluate their roadway improvement projects. The metrics are specific to each project and the objective of the remediation. They evaluate the impact on all users and infrastructures in all the realms (roadway, pedestrian) of the right-of-way as well as the adjacent buildings.

There are 5 categories of metrics: safety, economic, satisfaction, mobility/traffic management, and environmental. The metrics within these categories are as follows:

#### **Safety:**

- % change in injuries for all street users
- % change in crashes for all or key street user
- % change in speeding for each direction

#### **Economic:**

- % change in retail sales
- % change at fronting businesses
- % change in commercial vacancies
- % changes in number of public events
- % change of pedestrian furniture
- % in unique visitors found parking

#### **Satisfaction:**

- % of users that prefer the new configuration

#### **Mobility/ Traffic Management:**

- % change in bus speeds
- % change in public transit ridership
- % change in bicycle volumes
- % change in travel time (for each direction)
- % change in travel speed
- % change in average parking duration
- % change in traffic volumes
- % change in travel speeds during peak hours
- % change in reliability of travel speeds

#### **Environmental:**

- % change in greenhouse gas emission in peak hours

## Section 4.4 New York State Department of Transportation

### Complete Streets Act – Chapter 398, Laws of New York (Bill Number: S5411A/ A8366)

In 2011, the New York State Legislator approved a Complete Streets bill that any project roadway undertaken by the NYSDOT or receiving state or federal funds must consider complete streets design or write or publish a public report elaborating on why they didn't consider these features. It makes an exception for resurfacing, maintenance and pavement recycling projects and projects in places where pedestrian and bicycle traffic are prohibited by law, the cost would be disproportionate to the need, there is a demonstrated lack of need or it would have adverse impact to public safety. Within two years of this bill going into effect, the NYSDOT had to write a report to showcase how they complied to this policy by underlining the changes in their procedures to institutionalize complete street designs features into their different frameworks.

The bill states that any project roadway undertaken by the NYSDOT or receiving state or federal funds must consider complete streets design or write or publish a public report elaborating on why they didn't consider these features.

Within two years of this bill going into effect, the NYSDOT had to write a report to showcase how they complied to this policy by underlining the changes in their procedures to institutionalize complete street designs features into their different frameworks.

NYSDOT developed the "Quick Estimator Reference" spreadsheet to estimate the cost of potential complete streets project based on the regions. The estimation tool factors in the cost of materials, work zone traffic control, incidental, inflation, contingencies, surveys, design, construction and inspection.

### Construction

The State of New York has instituted a policy (CAM §11-102) which give NYSDOT *"the ability to enforce the relocation of utilities when they interfere with contract work or safety related policies or standards."* They also allow for the department to fine and sanction the noncooperative utilities and they provide a clearly defined and enforceable process to do so ([CAM §105-06](#)).

## Section 4.5 Massachusetts Department of Transportation

The state of Massachusetts is made up of 351 municipalities and has no unincorporated area. It is crucial for municipalities to embrace the concept of complete streets for the state to achieve their goal of making streets safe and accessible for all travel modes for people of all ages and abilities. To accomplish that feat, the MassDOT established a Complete Streets Funding Program that provides technical assistance and construction funding to eligible municipalities.

To be eligible municipalities must adopt a complete streets policy that score 80% and higher on their policy evaluation criteria and develop a Prioritization Plan.

The program provides technical assistance up to \$50,000 and construction funding (up to \$400,000) to municipalities that passed a CS policy that scored at least 80% on their Complete Streets Policy Element Score Sheet and developed a Prioritization Plan.

The money from this program cannot be allocated to programs where non-motorized modes are prohibited.

The program also offers two trainings for public officials, planners, engineers and designers through UMass Amherst Transportation Center:

- [“Complete Streets 101 - Benefits, Eligibility & Funding”](#)
- [“Complete Streets 201: Designing Your Streets For People”](#)

Attendees have the potential to earn 1 road scholar credit and 0.3-0.6 Continuing Education Credits. The target audience for these training are locally elected officials, planners, engineers, bicycle and pedestrian program coordinators, designers, landscape architects and private consultants working on roadway projects.

The municipalities requesting funds from this program must send at least one staff member to one of those trainings.

In 2016, nine of the thirteen Best Complete Streets Policies selected by National Complete Street Coalition were from municipalities in Massachusetts and they all scored more than 95 points out of 100 on their scale. Although the template Complete Streets Funding Program Policy scored 38 out of 100 on the 2018 SGA/NCSC Complete Streets policy scale, the existence the of program and its structure was strong enough to fuel change statewide.

## Medford

Before (top)



Allston Street Curb Extension



Boston Avenue Bike Lane



Winthrop Circle Pedestrian Crossing



After (bottom)



## Westwood

Before (top)



High Street/Pond Street Pedestrian Improvements



High Street/Pond Street Pedestrian Improvements



Blue Hill Drive Bike Lane



After (bottom)



As of October 2019, over 65% of the municipalities adopted a complete streets policy and registered in the state complete streets program. Almost 60% of the adopted policies meet their standards for their scoring process. Forty six percent (46%) of the municipalities have developed and approved a Prioritization Plan. One hundred twenty-four (124) construction awards totaling \$38M and 167 Technical Assistance Grants totaling \$6M have been issued for complete streets projects.



## Section 4.6 Miami Beach Street Design Guidelines

This guide is an instrument implemented by the city to provide safer streets for all road users and to help the implementation of the 2016 Transportation Master Plan and Bicycle Pedestrian Plan. This guide has been adopted by the city and replaces former street design standards. It promotes the concept that “a busy street is a safe street” by recommending wide shaded sidewalks, active frontage with street facing windows, walking and transit supportive land use, protected low stress bicycle network and reduced road speeds. The guide provides countermeasures

based on street types for each element of the right-of-way. The guidance is context-sensitive and provides examples of streets in the City where each of these countermeasures might be applicable, relating a street’s typology to its overall functional classification. These guidelines provide ranges and different options of application for each street type that can be customized based on the availability of right-of-way and other factors. The manual also provides detailed guidelines, including dimensions and references to key policies and manuals adopted at the county and state level that regulate right-of-way projects.

Below are excerpts from the Miami Beach guidelines showing the applicability of different treatment types, and how they can be configured into the ROW. The second excerpt is a matrix that identifies which types of traffic calming measures can be used on which street typologies.





STREET TYPES + COUNTERMEASURES		BICYCLIST: PROTECTED BIKE LANES: MATRIX							
CORRIDOR SCALE DESIGN CONSIDERATIONS	ONE WAY PROTECTED BIKE LANE	CONTRA-FLOW PROTECTED BIKE LANE	ONE WAY PROTECTED BIKE LANE + CONTRA-FLOW PROTECTED BIKE LANE	TWO WAY PROTECTED BIKE LANE	ONE WAY PROTECTED BIKE LANE PAIR	TWO-WAY PROTECTED BIKE LANE	MEDIAN TWO WAY PROTECTED BIKE LANE		
ACCESS TO DESTINATIONS	People on bicycle have limited access to the other side of the street.	People on bicycle have limited access to the other side of the street.	People on bicycle have full access to the other side of the street.	People on bicycle have limited access to the other side of the street.	People on bicycle have full access to the other side of the street.	People on bicycle have limited access to the other side of the street.	People on bicycle have limited access to the other side of the street.		
NETWORK CONNECTIVITY	Does not address contraflow demand which may result in wrong way riding	Bicyclists riding in the direction of traffic share a lane with motorists. May result in wrong way riding in the contraflow bike lane	Allows for two-way bicycle travel but contraflow crossings may be inefficient.	Allows for two-way bicycle travel but contraflow crossings may be inefficient.	Allows for two-way bicycle travel	Accommodates two-way bicycle travel	Accommodates two-way bicycle travel		
CONFLICT POINTS	Few. Turning drivers and pedestrians expect 1 way bicycle traffic	Turning drivers and pedestrians may not expect contraflow traffic	Turning drivers and pedestrians may not expect contraflow traffic	Turning drivers and pedestrians may not expect contraflow traffic	Few. Turning drivers and pedestrians expect concurrent bike riders	Turning drivers and pedestrians may not expect contraflow traffic	Turning drivers and pedestrians may not expect contraflow traffic. Median may improve visibility and reduce conflict		
INTERSECTIONS	May use existing signal phases, bike signal may be required depending on volumes	Usually requires additional signal equipment. Bike phase may be required depending on volume	Usually requires additional signal equipment. Bike phase may be required depending on volume	Usually requires additional signal equipment. Bike phase may be required depending on volume	May use existing signal phases, bike signal may be required depending on volumes	Usually requires additional signal equipment. Bike phase may be required depending on volume	Usually requires additional signal equipment. Bike phase may be required depending on volume		

Fig 2.61 Protected bike lane configurations matrix.

PEDESTRIAN/ BICYCLIST/ DRIVER : COUNTERMEASUREMATRIX										
STREET TYPES	STREET TYPES + COUNTERMEASURES									
	LOCAL STREET	MAIN STREET	BOULEVARD	TRANSIT BOULEVARD	AVENUE	PEDESTRIAN STREET	SHARED SPACE	NEIGHBORHOOD GREENWAY		
WIDE SIDEWALKS 6' MIN.	●	●	●	●	●			●		
WIDE SIDEWALKS 6'- 10'		●	●	●	●					
ALIGN CROSSWALK & RAMP	●	●	●	●	●	●	●	●		
MID-BLOCK CROSSING	●	●	●	●	●	●		●		
HYBRID BEACON (HAWK)										
BRAILLE/ VOICE PED CROSSING	●	●	●	●	●	●	●	●		
CURB EXTENSION	●	●	●	●	●			●		
MEDIAN		●	●	●	●			●		
IMPROVED LIGHTING	●	●	●	●	●	●	●	●		
CHICANES	●	●	●	●	●			●		
STRIPING/ DOUBLE TURN LANE	●	●	●	●	●			●		
FRONTAGE LANE			●	●	●					
ON-STREET PARKING	●	●	●	●	●		●	●		
DRIVEWAY MANAGEMENT	●	●	●	●	●			●		
NO RIGHT ON RED (BIKES OK)	●	●	●	●	●	●	●	●		
SHARED LANE MARKINGS (SHARROW)	●	●	●	●	●			●		
DIVERTER	●	●	●	●	●			●		
CONVENTIONAL BICYCLE LANE	●	●	●	●	●		●	●		
PROTECTED BICYCLE LANE	●	●	●	●	●	●	●	●		
SHARED USE PATH	●	●	●	●	●			●		
GREEN PAINT ON BIKE FACILITY	●	●	●	●	●			●		
BIKE BOX AT INTERSECTION	●	●	●	●	●	●	●	●		
STREET TREES / TREE CANOPY	●	●	●	●	●	●	●	●		
TRAFFIC CIRCLE	●	●	●	●	●		●	●		
BACK ANGLE PARKING	●	●	●	●	●			●		
SPEED CUSHION	●	●	●	●	●		●	●		
GATEWAYS	●	●	●	●	●	●	●	●		
BIOSWALE	●	●	●	●	●	●	●	●		

● Required ● Suggested

Fig 2.87 Street types and countermeasures matrix

### Section 4.7 Best Practices Matrix

The following table summarizes the information from the previous sections:

		Planning	Design	Construction
SDOT	<a href="#">Seattle Illustrated</a>	Seattle Illustrated is a comprehensive online manual with policies, guidelines, design standards and tools for right-of-way projects to developers, designers, engineers and community advocates. It serves as an information central and defines the different processes and the contact information of key personnel or coordinators.	The manual integrates Complete Streets principles and provides context-sensitive design standards and has a safety focus to help the city achieve the 2030 vision zero goal.	The manual provides guidelines for the construction process and guidelines for locating underground utilities.
	<a href="#">Complete Streets Checklist</a>	The Complete Streets checklist is a component of the Complete Streets screening process which evaluates the extent to which the project improves user experience for each mode. All projects costing \$500,000 or more must complete the City's Complete Streets Checklist while preparing the initial scope.	N/A	One of the checklist elements is to evaluate the pavement conditions in a project area to ensure coordination with right-of-way maintenance projects.
WSDOT	<i>Construction Impact Analysis</i>	Washington State Department of Transportation (WSDOT) established a multi-agency construction planning process which outputs a detailed map of scheduled project, and a Gantt chart.	WSDOT has an outlined process for working with utilities and each region has a set of individuals designated to oversee the project coordination and their contact information is listed in an online directory on the DOT website. If utilities want to occupy WSDOT right-of-way, they must submit a utility accommodation application. Similarly, when WSDOT project will impact a utility's infrastructure, they must enter into a project development agreement with the utilities.	The tool is used to facilitate maintenance of traffic and helps identify construction "hot spots" where frequent coordination meetings occur (ex: every two months for downtown Seattle).
NYSDOT	<i>Street Design Manual</i>	The purpose of this manual is to supplement existing guidelines, standards, regulation, laws, rules and requirements provide by Geometric Design of Highways and Streets (AASHTO "Green Book"), Manual on Uniform Traffic Control Devices (MUTCD), ADA Standards for Accessible Design.	The second chapter of the manual provides guidelines and recommendations on how and where to incorporate certain streets design elements. It provides New York City specific examples of its applicability when possible.	The Department of Design and Construction (DDC) coordinates with utilities for capital projects and holds "alignment" meetings with private utilities during the final designs to minimize construction schedule disruption.
	<i>Streets Works Manual</i>		This manual contains the policies and procedures for works in city streets. The second chapter outlays the procedure for providing notices and coordinating with utilities.	The fourth chapter provides guidelines for the execution of the work and the site condition during and after the construction.
NYSDOT	<i>CAM §11-102</i>	N/A	N/A	This policy gives the State of New York Department of Transportation (NYSDOT) the authority to enforce utility relocation when they interfere with their contracted work or do not adhere to safety standards and or other policies. It also allows for NYSDOT to fine and sanction the noncooperative utilities (the process to do is defined by CAM §105-06.

## CHAPTER 4: BEST PRACTICES

MassDOT	<b>Complete Streets Funding Program</b>	Complete Streets Funding Program provides technical assistance and construction funding to eligible municipalities.	MassDOT published a Separated Bike Lane Planning and Design Guide in 2015.	
DVRCP		The Delaware Valley Regional Planning Commission (DVRPC) developed a Municipal Implementation toolbox. This compiles many interdisciplinary resources to help local governments implement the goals of their 2045 long-range plan; Connections 2045.	N/A	<a href="#">Congestion Management Process</a> is one of the notable tools provided in this toolbox. It is used by engineers, policy makers and interested members of the publics and outputs a reports maps and other items to help study an area.
ICT	<b>Best Management Practices and Incentives to Expedite Utility Relocation</b>	The Illinois Center for Transportation 2017 report on <a href="#">Best Management Practices and Incentives to Expedite Utility Relocation</a> surveyed national and international DOT procedures and outlined the best practices. It identifies best practices to expedite and streamline the utility coordination process and determines their cost and adherence to federal and Illinois regulations. These practices are a mix of administrative, right-of-way management, contract type changes and field and information technology solutions. All these approaches incentivize multi-agency coordination, information sharing and standardizing, communication and permitting centralizing and digitization and process clarification and simplification. In addition, it also present financial incentives that motivate all stakeholders to adhere to the schedules because they redistribute the project delay cost burden.		
BCDOT	<i>Baltimore City Code Article 26, Subtitle 40 (Ordinance 17-0102)</i>	Legally obligates the transportation department to construct a "Complete Streets Transportation System" that accommodates "all travel modes, that ensures the safety, security, comfort, and convenience of all users". Creates an Advisory Council which influences project selection by promoting interagency cooperation, reviewing project proposals, and recommending project prioritization levels.  Complete Streets Manual raises the required level of public involvement to include community engagement policies that overcome barriers to engagement associated with race, income, age, disability, language, and access to vehicles.	Ordinance 17-0102 obligated the Transportation Department to adopt a Complete Streets Manual and requires the transportation department use the latest and best design standards available from NACTO, AASHTO, FHA, ITE, and NCHRP reports. Manual must include a hierarchy of travel modes, indicating the priority to be given to each.	N/A
MNDOT	<a href="#">Mitigating Construction Impacts on Local Businesses (May 2019)</a>	This study by the Minnesota Department of Transportation (MN DOT) identified three construction related tools and strategies that help minimize the impact of construction on small businesses: on-site signage (ex: businesses still open, business this way), alternative parking for affected businesses, staging incentives (ex: detour rental fees, intersection closing time limits.). On-site signage was ranked the most effective and alternative parking the least. They evaluated the effectiveness of different communication tools. Of the traditional communication tools construction project websites and preconstruction meeting received the higher score on the scale of effectiveness. When evaluating the different social media platforms using the same metric it found Twitter and Facebook to be the most effective and LinkedIn the least used and effective. The study also looked at different business accommodation tools Project Hotline, Construction Activity Timing, Financial Compensation for Loss of Business, Advertising Campaigns or Funding. The most effective tool was the construction activity timing and the least used tool was the financial compensation for loss of business and advertising campaigns/finding.		

## Chapter 5: Recommendations & Action Plan

This section focuses on strategies to improve project development processes in Miami-Dade County. The recommendations here are derived from a combination of the literature review research, identified best practices, stakeholder interviews and the SAG feedback.

The topics of focus laid out by the study's objectives in Chapter 1 formed the basis of recommendations in this chapter. The table below summarizes how each focus topics correspond to the recommendations in this chapter. Each of the recommendations builds off best practices identified over the course of the research conducted for this study, and input from the study advisory group members and professional staff interviewed.

Recommendation	Improve project development process	Minimize impacts during roadway construction	Identify industry best practices
Create a County Project Scoping Committee to streamline the project development process	✓		✓
Coordinate construction schedules to minimize impacts to the community		✓	✓
Implement a utility conflict resolution process	✓	✓	✓
Create a County Facilities Improvement Website	✓		✓
Increase Community Engagement Opportunities	✓	✓	✓

The recommendations laid out in this chapter are each paired with a recommended action plan. Each action plan identifies four components - the steps to be taken, responsible parties, timeframe, and resources needed, for the recommendation to be implemented.

### Section 5.1 Create a County Project Scoping Committee to streamline the project development process

- Implement a formalized project development process to improve interagency coordination and communication. This has been identified as a best practice at the state level, where FDOT district offices convene scoping committees that incorporate feedback from members of all district departments. This process can also bridge the gap between a project's planning and design phases, setting the framework for the development of a scoping report, which further identifies design elements to be implemented.
- Once the scoping committee is established, projects moving forward in the County's pipeline will be used to establish clear work program.
- The creation of a project scoping committee would ensure that projects entering the work program are synchronized, obtaining input from all involved agencies and utilities, as well as being properly scheduled and funded.

Strategy/Goal	Actions	Responsible Party	Timeframe	Resources Needed
<b>Create a County Project Scoping Committee to streamline the Project Development Process</b>	I. Develop a scoping methodology that works for DTPW. The County is currently developing a process based on the state model II. Implement scoping committee on a limited basis to initially evaluate effectiveness III. Assess effectiveness, make changes as necessary IV. Expand the process to incorporate projects in the county's pipeline	DTPW	Initiate Pilot Scoping Committee ASAP	Support from County departments; Coordination with external agencies (FDOT, municipalities)



## Section 5.2 Coordinate construction schedules to minimize impacts to the community

- Align construction project schedules that fall under the County's purview to minimize impacts on neighborhoods and minimize project costs. Coordinated project schedules have the potential to shorten the overall construction period and reduce impacts to neighborhoods. This approach will require close communication between Miami-Dade departments, as well as municipalities, agencies, and private entities.
- The county should also develop a tool that can serve as a central hub for coordinating projects. Such a tool should include visual resources, including maps and Gantt charts of the projects so that work can be tracked spatially and temporally.

Strategy/Goal	Actions	Responsible Party	Timeframe	Resources Needed
<b>Coordinate construction schedules to minimize impacts to the community</b>	I. Develop a Construction Coordination Tool (CCT) to coordinate roadway construction schedules and provide information to the public II. Draft Memorandums of Understanding between agencies with overlapping projects III. Designate scheduling coordinators within participating entities	DTPW in collaboration with WASD, FDOT, Municipalities, Utilities, & Private Sector	12-18 months	IT support to develop the software Assignment of dedicated scheduling coordinator

### Section 5.3 Implement a utility conflict resolution process

This process would resolve permitting and utility issues during the design phase and promptly address unexpected challenges during project construction.

- Engage utility owners to provide utility location and comments as early as possible (between 30 and 60 percent) in the design phase.
- Create a contractual structure identifying schedule-based incentives. These can include cash bonuses, cost sharing, and contractor-based incentives to encourage utility owners to promptly relocate conflicting utilities.

Strategy/Goal	Actions	Responsible Party	Timeframe	Resources Needed
<b>Implement a utility conflict resolution process</b>	<p>I. Create incentives that encourage utilities to collaborate with County before the 60% design phase. Techniques to consider could include:</p> <p>Cash bonuses, cost sharing, or contractor-based incentives</p> <p>II. Execute agreements with utilities based on type of incentive</p> <p>III. Prepare construction utility work schedules to minimize project delays</p>	DTPW in collaboration with utility companies	12 -18 months	Funding for incentives

## Section 5.4 Create a County Facilities Improvement Website

The website would be structured as a one-stop shop that combines and organizes existing facility improvement requirements and standards. This website would provide clear guidance and lay out processes for how to design, build, and manage transportation projects within the county right-of-way (ROW).

The website would encapsulate each step of the project development process from transportation planning through engineering and construction. This website would include clearly illustrated guidelines on how to request and successfully initiate requests for infrastructure improvements. The website will provide:

- Guidance on how to implement bicycle and pedestrian infrastructure.
- A central clearing house for data and standards that are regularly updated and revised.
- Processes for creation of pilot projects to test innovative transportation.

Strategy/Goal	Actions	Responsible Party	Timeframe	Resources Needed
<b>Create a County Facilities Improvement Website</b>	I. Create a one-stop website that combines and organizes existing ROW improvement standards and requirements II. Prepare guidance and processes for how to design, build, and manage projects within the county ROW III. Continue county's effort to draft updated standards for Complete Streets IV. Continually update and revise the information to respond to the evolving needs	DTPW	12-24 months	Assignment of staff to collaborate on content development and web design IT and graphical support

### Section 5.5 Increase Community Engagement Opportunities

Enable residents and business owners to provide feedback from project development to construction.

- Develop a publicly accessible tool, where the public can obtain information about projects throughout the project development process. Existing tools should be evaluated to see if they could be repurposed to serve this need. This tool would:
  - Communicate project information to the community, including project location, construction schedules, projects in the vicinity, points of contact and project ownership.
  - Provide a platform with readily available data in Miami-Dade County to the public, which can include maps in GIS format, traffic, and planning data, and permitting information.
- Provide a forum to discuss public issues related to the project development process, and coordinate distribution of timely information to the public. This coordination is recommended to occur within public information key staff within key agencies, at the state, county, and local level. Currently there are meetings being held within public information officers from transportation partner agencies. It is recommended to support and expand this effort.

Strategy/Goal	Actions	Responsible Party	Timeframe	Resources Needed
<b>Increase Community Engagement Opportunities</b>	I. Create a publicly accessible component of the Construction Coordination Tool (CCT) that: <ul style="list-style-type: none"> <li>* Communicates project information including location and schedule, points of contact and ownership</li> <li>* Provides GIS data and readily available information to the public</li> <li>* Provides opportunity for public input</li> </ul> II. Create opportunities for input during the design phase III. Quarterly meetings between public information officers from key agencies (FDOT, county, municipalities)	Public Information Officers from key agencies	18 months (dependent on implementation of CCT)	Development of CCT, support from public agencies

