KITTELSON & ASSOCIATES

TDM Strategies Guide

A Comprehensive Review of Transportation Demand Management Strategies and Programs and an Analysis of Best Practices from Peer Cities

MULTIMODAL COMMUNITY PLANNING STUDY

NEXT STOP FORT LAUDERDALE

Advancing the Vision

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MEMORANDUM

Date:	October 31, 2019	Project #: 22317.7
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From:	Fabian de la Espriella, AICP, Mary Raulerson, Riva Heinrich, and Russ Doubleday	
Project:	Next Stop Fort Lauderdale Planning Study	
Subject:	Transportation Demand Management Guide	

EXECUTIVE SUMMARY

As American cities become increasingly congested with vehicles, the number of transportation options and transportation-focused companies continues to grow. Local and regional jurisdictions are increasingly implementing Transportation Demand Management (TDM) policies and programs to harness the power of these travel options and reduce the number of individuals driving alone to commute to work or to reach their travel destination.

Currently, 90 percent (78,725 individuals) of commuters in Fort Lauderdale drive alone for travel[1]. The purpose of this guide is to provide a summary of current TDM practices and relevant case study examples for the City of Fort Lauderdale. The contents within this guide will provide the City with the tools and strategies needed to drive down this 90 percent commute share.

There are a large number of possible TDM strategies that have been researched or implemented in communities across the country. These strategies are diverse and linked only by their demand-side approach that can combine transportation planning and land use elements together to encourage people to use non-vehicular modes of travel.

This guide provides three broad recommendations for the City:

Coordinate between government and the private sector. Local and/or regional government cannot be the only entities promoting TDM strategies. Businesses, transportation management associations, and

[1] American Community Survey, 2017 5-year estimates

other non-profit groups have a hand in promoting these programs. When the community and local businesses buy into reducing drive alone trips, then TDM programs are more likely to succeed.

Marketing the TDM strategies is as important as the strategies themselves. A big step for implementing TDM programs and policies is simply informing people of the choices all around them. Social marketing and public awareness campaigns are well-suited to broadcast this information. This step also includes an analysis of who is commuting and where they are going.

Provide residents with a broad range of transportation choices. People need transportation choices if the goal is to reduce drive alone trips. While frequent transit service, a complete sidewalk network, and comfortable bicycle facilities are necessary, new strategies around real-time transportation information and micromobility options must be included in any current TDM plan.

Last, this guide explores three different case studies from select comparable cities and counties to highlight different aspects of these recommendations and show different planning and implementation processes for the City. Arlington County, a national leader in TDM programming, has a broad range of strategies and has made unparalleled strides in incorporating technology to provide residents with real-time travel information. Atlanta has laid the groundwork for a robust TDM program and has completed a rigorous analysis of where TDM programs are most needed. Commute Seattle, a transportation management association for downtown Seattle, works closely with businesses and city government to reduce drive alone trips.

INTRODUCTION

PURPOSE

The purpose of this document is to provide guidance on Transportation Demand Management (TDM) as a tool to shift mobility trends in the City of Fort Lauderdale. The data and information here were derived from professional literature as well as TDM best practices from peer cities around the country. This guide aims to provide supporting information to City staff about TDM concepts, provide an understanding of TDM in the context of Fort Lauderdale, describe examples of programs and policies that could be implemented locally, and exemplify these practices through case studies. The City should use this guide as a starting point to coordinate and implement a TDM strategy that best fits the City's needs.

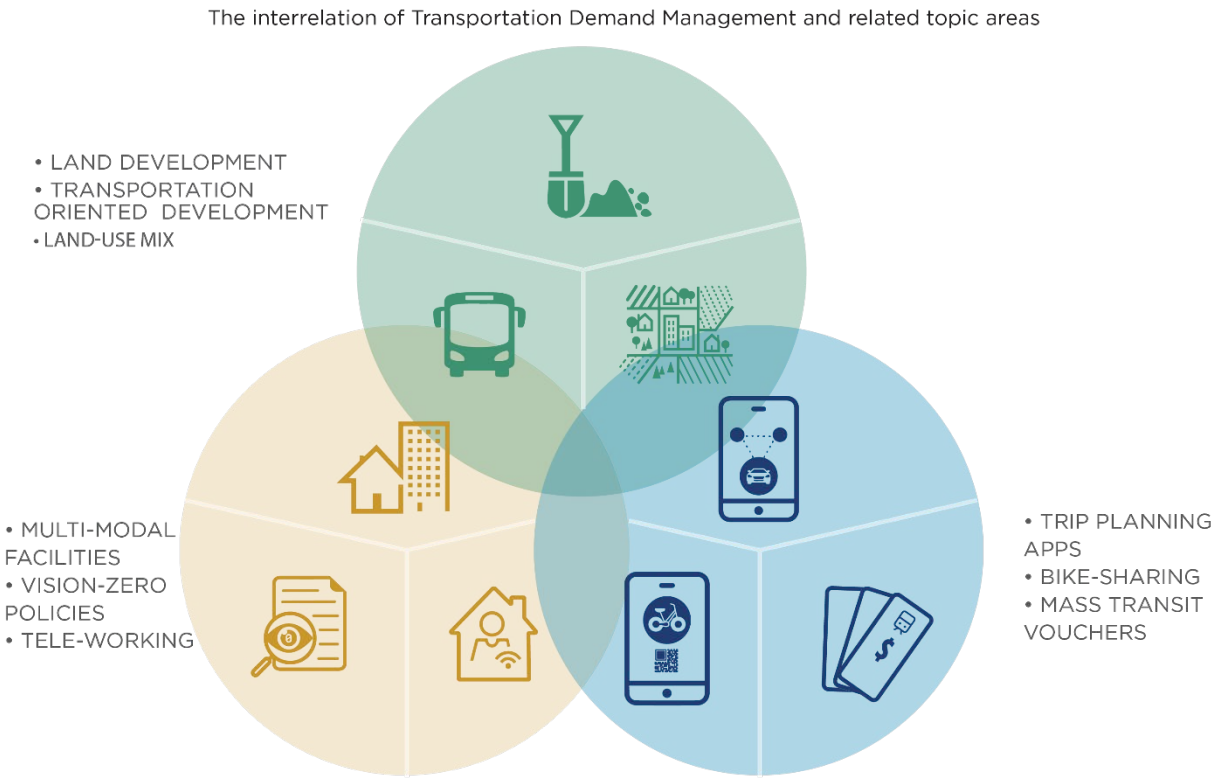
INTRODUCTION TO TDM

Throughout the last 20 years traffic congestion in the United States has plagued 76.3 percent of Americans traveling alone to various destinations.[2] This staggering amount of congestion leads to environmental, public health, and economic vitality concerns within the nation's metropolitan areas. Localities have turned to innovative practices in transportation that, when implemented cohesively, can help reduce traffic congestion on highly traveled roads. Many of these strategies are demand-side strategies where programs, policies, and incentives are meant to take advantage of a user's need to travel by providing more options for transportations modes and times traveled. These TDM strategies are a combination of institutionalized methods that provide alternatives to single-occupant vehicles (SOVs). Case studies in this guide are used as evidence to the effectiveness of TDM and are part of a greater body of examples that point toward how successful these strategies are when implemented by local government/public agencies.

TDM programs are typically implemented through a local or regional governing body, such as a Metropolitan Planning Organization (MPO), Transportation Planning Organization (TPO), or a local county or city government. Some state Departments of Transportation will facilitate TDM programs as well. The topic areas through which TDM is exercised are diverse, inclusive of urban design and Transit Oriented Development concepts, traffic modeling and demand, information technology, GPS and real-time information, programming, public-private partnerships, and benefits programs. The ultimate goal of a comprehensive TDM program is to serve the needs of its community by identifying strategic locations and programs that encourage the use of other modes of transportation and molding these modes in a way that is both fiscally and politically feasible. An illustration of TDM topic areas are shown in Figure 1.

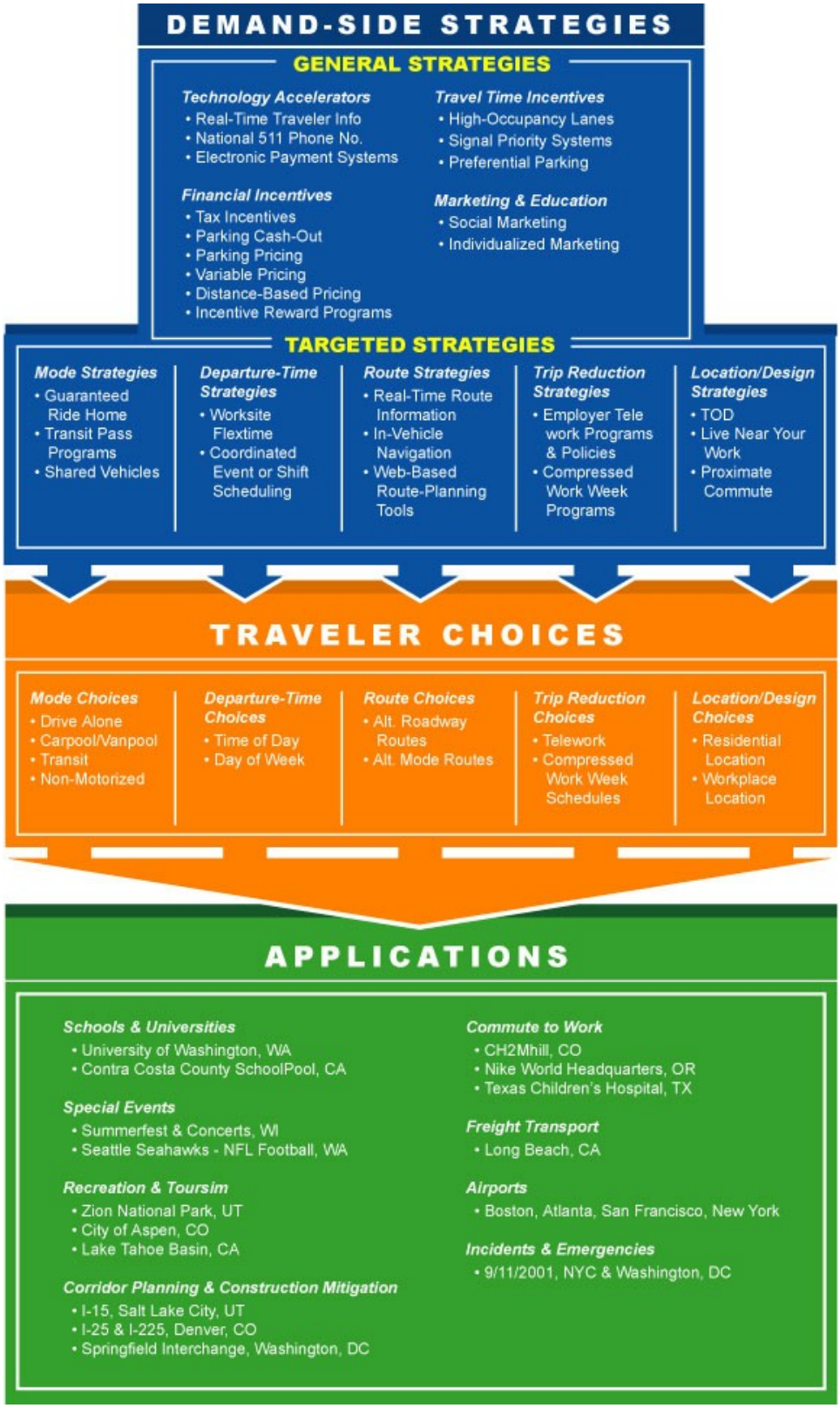
[2] https://www.brookings.edu/blog/the-avenue/2017/10/03/americans-commuting-choices-5-major-takeaways-from- 2016-census-data/

Figure 1: The Interrelation of Transportation Demand Management and Related Topic Areas



There are no specific topic areas that are exclusive to TDM other than utilizing a demand-side framework for transportation, meaning that any strategic combination of transportation planning and land use elements can be used to form a successful program. The demand-side framework allows the planner or administrator to make these calculated decisions in transportation through the lens of the user. The Federal Highway Administration (FHWA) manual on demand-side strategies provides an illustration of the framework seen in Figure 2. The chart describes an effective strategy with multiple integrated elements that are meant to influence user behavior. This framework begins with general strategies that can be identified through the context of each location and used to determine targeted strategies that address different aspects of transportation, such as travel modes, departure time, routes, trip reduction, and location or design strategies. These targeted strategies then inform travel choices, and the chart shows the possible decisions the traveler can make with the current transportation infrastructure. These strategies can then be applied to various scenarios within a user's choice to travel. The strategies described in this section have the potential of being applied to Fort Lauderdale with the intention of making these programs and policies systematic to the transportation context.

Figure 2: The Three Core Elements of Demand-Side Strategies

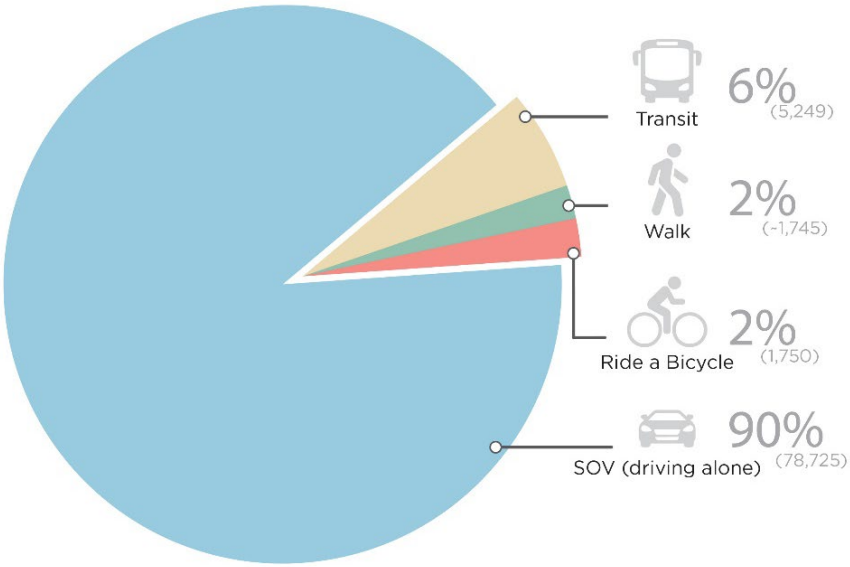


Source: FHWA, Mitigating Traffic Congestion: The Role of Demand-Side Strategies

BACKGROUND: THE CITY OF FORT LAUDERDALE IN CONTEXT

Fort Lauderdale has grown by 10.2 percent since 2010 with 16,832 new residents and an increase in new employment ventures for over 32,917 businesses according to 2012 estimates.[3] This growth is projected to continue in tandem with Florida's overall population growth and will require new ways of thinking about and planning for current and future transportation needs. Approximately 81,000 commuters are traveling within Fort Lauderdale daily, mainly going to and from their places of employment.[4] The modes of travel for these commuters are demonstrated in Figure 3.

Figure 3: Travel Modes among Fort Lauderdale Commuters



Source: Next Stop: Fort Lauderdale, Multimodal Community Planning Study, Barriers Tech Memo

The chart above highlights the top choice among travelers, demonstrating where priorities can be focused in forming an effective TDM strategy. For Fort Lauderdale, five transportation management strategies emerge as priorities:

- Shifting priority from SOVs
- Collaborating with employers
- Improving public transportation
- Promoting programs through education and social marketing
- Changing policy and regulations

[3] American Community Survey 2012 Survey of Business Owners (most recent, 2017 data not available as of memo submittal)

[4] Next Stop: Fort Lauderdale, Multimodal Community Planning Study, Barriers Tech Memo; American Community Survey

The current TDM strategies utilized in the Fort Lauderdale region are administered through the Florida Department of Transportation (FDOT) as well as the City and County. FDOT offers the South Florida Commuter Services program, a clearinghouse of information for commuter information and programs/incentives for the region. A sample of the programs offered are an Emergency Ride Home program, access to I-95 express lanes if the user is in a hybrid vehicle, and taxi vouchers for college/university students. Locally, the Downtown Fort Lauderdale Transportation Management Association facilitates the coordination of local stakeholders (government, private employers, developers, and property owners) and operates the local Sun Trolley and Riverwalk Water Trolley. Broward County runs Broward County Transit (BCT), which offers frequent service on select routes during peak hours and real-time information of bus arrivals/departures. Geographically, BCT serves the region by offering service throughout the entire County, playing a significant role in moving travelers in and out of Fort Lauderdale. The Sun Trolley is also operated jointly between BCT and the Downtown Fort Lauderdale Transportation Management Association.

The following section discusses the possible implementation of TDM within the context of Fort Lauderdale's current transportation system and pairs these strategies with examples located in peer locations in the United States. This section is meant to act as a guide for TDM with respect to contemporary tactics, however, it is not comprehensive of all localities and TDM strategies. The policies and programs discussed here can act as a starting point for implementation.

IMPLEMENTING TRANSPORTATION DEMAND MANAGEMENT

Recent literature on TDM practices indicate that there are several themes that many municipalities follow when reviewing transportation management. They are listed here as:

- Local Government and Private Sector Coordination
- Marketing and Public Awareness
- Strategies in User Choice

These themes were also selected because of their potential relevance to the Fort Lauderdale area and their linkages to best practices within other regions. When combined, these strategies work to create the necessary regulatory, social, and physical environment to ensure the success of a TDM program.

LOCAL GOVERNMENT AND PRIVATE SECTOR COORDINATION

A sustainable TDM program is heavily reliant upon the cooperation of local governments and employers within the private sector, who work together in creating different programs, policies, and incentives within activity/employment centers. Data indicates that travel to and from work encompasses a large proportion of single occupancy trips, resulting in vehicular gridlock at peak hours. For this reason, most TDM programs around the country work with employers as a means of addressing the source of the gridlock. Employers are often members of relevant committees and organizations that facilitate these

programs and have equal interest in reducing traffic and travel time for their employees. Methods of cooperation are broken down into three interrelated programming strategies:

- Travel Time Strategies: adjusting travel of employees during times outside of peak travel hours.
- Trip Reduction Strategies: allowing flexible scheduling of work outside of a central office at offsite locations or at home
- Incentives: providing prizes, gifts, money, or other incentives given to employees in exchange for a desirable commute pattern or mode of transportation

The use of travel time strategies staggers the arrival and departure of employees at a single site as a means of facilitating travel outside of peak hours. The bulk of traffic congestion stems from travel to work during these hours, meaning this strategy addresses the problematic travel patterns and behavior directly.

Trip reduction strategies are meant to allow employees to work remotely from satellite offices, home, or other appropriate locations (local coffee shops, bookstores, etc.). Incentives encourage a particular travel behavior that reduce SOV use and may work in concert with travel time and trip reduction strategies.

The ability to establish this level of cooperation is equally as important as the programs listed above. Programs such as these are often formally established within the locale's governing documents, such as the comprehensive plan, transportation master plan, articles of incorporation, through a local planning organization, or by city/county ordinance. Cooperative committees and associations may also form independently and work as an advocacy force to speak with decision makers. Facilitation of meetings, meeting spaces, and communication are typically initiated and maintained by local government officials.

Recommendations

Broward County currently works alongside of the Downtown Fort Lauderdale Transportation Management Association (TMA) as the operator of the Sun Trolley. The TMA was incorporated in 1992 and has embraced its role to "coordinate the efforts of government and private employers, developers, and property owners in addressing common transportation concerns; improving accessibility and mobility; providing transportation services; and working cooperatively with local and state government for the continued growth and development of downtown Fort Lauderdale while avoiding traffic congestion."[5] The TMA could work to establish a secondary effort in TDM because of their connections with private employers. The organization could also collaborate with Broward County as well as the City to consolidate resources in traffic management as part of an independent program or launch a

[5] https://www.suntrolley.com/about/who-we-are/

research committee in formulating a new TDM program. Some of the specific programs, policies, and incentives the organization could introduce are seen in Table 1.

Table 1: Local Government and Private Employer Collaboration Strategies

Targeted Strategies for Trips to and from Work		
Commuting competitions	*Transit and rideshare benefits*	*Parking cash out*
Employee parking pricing	*Compressed work week*	*Satellite office locations*
Travel allowances	*Mobility working incentives*	*Preferred parking for carpooling*
Flextime	*Travel reimbursement*	*Shift staggering*
Telecommuting		*Short-term vehicle rentals*

Note: Descriptions of the strategies are located in the glossary.

Example: Employee Transportation Corridor Program (ETC), Charlotte, North Carolina[6]

In addition to being a transit agency operating bus, streetcar, and light rail service, the Charlotte Area Transit System (CATS) also facilitates a large network of employers who promote non-SOV transportation options for their workers. CATS works to form close relationships with these organizations in order to ensure that employees can buy into the programs and that the program is sustained from year to year. CATS also took steps to promote their transit services by holding charettes and fairs for these employers. The program has reached over 100 employers, inclusive of both for profit and nonprofit entities. Each organization determines the combination of transit passes and programs fit their needs, and can qualify for a combination of:

1. Volume discounts
2. Tax Free purchase (IRS – Commuter Tax Benefit program)
3. Subsidized purchase with and without Tax Free purchase
4. Smartride program (give up your parking and get employer provided annual transit pass)
5. All Access pass

There are currently no limitations to type or size of company targeted by the ETC program.

[6] https://charlottenc.gov/cats/Pages/default.aspx

MARKETING AND PUBLIC AWARENESS

An essential component to a successful TDM strategy is the planning and application of social marketing and public awareness campaigns. According to the FHWA guide on mitigating traffic congestion, promotional efforts are meant to accomplish one (or all) of three initiatives: (1) increase public awareness of transportation choices, (2) encourage and incentivize traveler behavior in trying new ways of commuting, and (3) increase or maintain the frequency users travel using TDM methods.[7] Marketing campaigns are often administered through various outlets depending upon the kind of travel. Transit agencies may offer their services through advertising on their vehicles or at stops, while bikeshare or e-scooter programs may promote travel commercially. If a benefits or rewards program were administered through a local government or public organization, marketing would need to be a key element in their planning strategy. The context of a comprehensive TDM program suggests that the administrator of the program would consolidate their programs, incentives, and services in one place, such as a website or a pamphlet, while also advertising the various transportation options that serve the same purpose as the TDM program.

Marketing is typically a creative practice and the variety of outlets through which to spread the word about a travel program varies from city to city. A TDM program should utilize its respective advertising outlet to create content that address specific audiences. This can be accomplished through two tactics: social marketing and targeted marketing.

Social marketing is employed by various industries in persuading users or customers to voluntarily alter their behavior in a way that benefits a greater portion of society. The results of social marketing campaigns include restaurants switching from plastic straws to paper straws to help lessen the amount of waste in the world's oceans, or the push to switch from gas-powered vehicles to fully electric/hybrid vehicles in order to lessen vehicular impact on the environment. As it applies to TDM, organizations can utilize marketing strategies that address high air pollutant levels, or to reduce the number of vehicular crashes that result in fatalities or serious injuries. Equally, programs can advertise based on the added benefit of a behavior. Using transit, bicycling or walking, or participating in a commuter benefit program may work to the advantage of an individual by allowing them to spend more time working or at home rather than spending time navigating through congestion. They may also see a decrease in their gasoline costs as a result, or it may complement a healthier lifestyle.

Individualized or targeted marketing centers its work on a specified group of individuals or households through customized information that speaks to an individual's situation. These individuals may be open to using public transportation or another benefit program when provided with information. They could also be commuters who travel in from a certain county, or work in an activity center that generates numerous vehicular trips. A TDM program may create a specialized program within its normal practices to speak to this particular audience to encourage a more desirable behavior among these individuals.

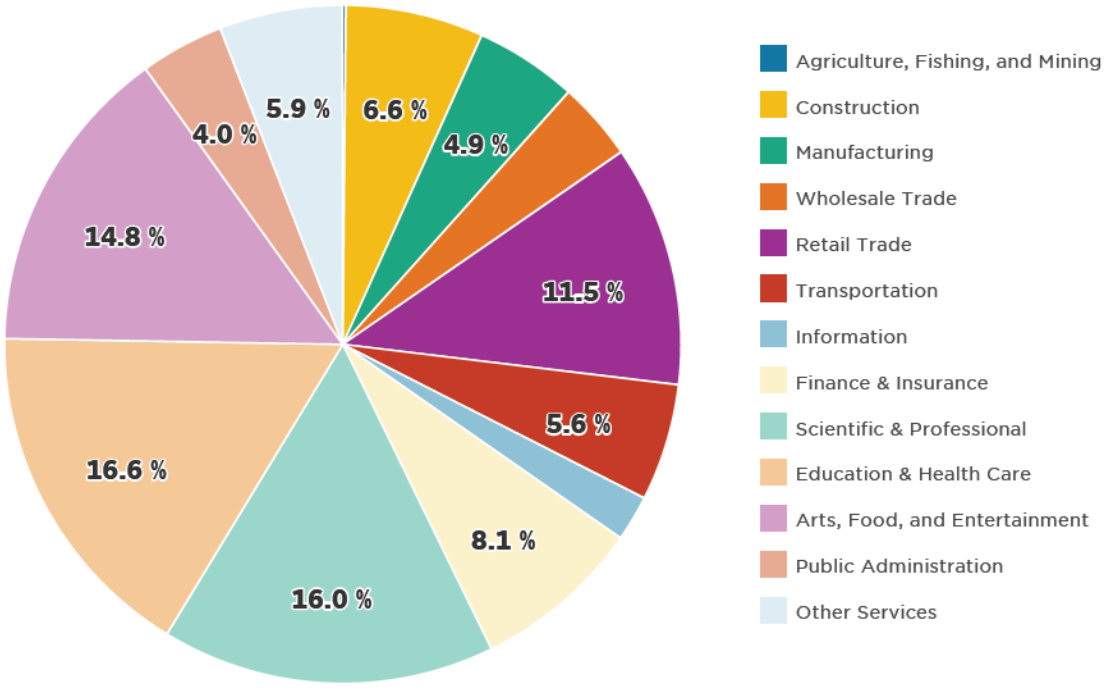
[7] https://ops.fhwa.dot.gov/publications/mitig_traf_cong/index.htm

Recommendations

A TDM program in the Fort Lauderdale area would need to identify the users and the behavior that requires change. Campaigning of this type often begins with an analysis of the commuters in the area and the identification of vehicular generators that draw traffic to that location. In terms of social marketing, the broader base of commuters would be the target audience, and it would be helpful to identify unique concerns this population has and pivot marketing efforts to appeal to the issue. Individualized marketing research could target populations with distinctive needs who also contribute to a large portion of SOVs trips. Collecting the following data would identify the characteristics of travelers that should be used in advertising strategies:

- Number of vehicles per household within a geographic radius of an activity center
- Commute mode survey (shown in Figure 3)
- Types of employment in the area, possibly using a location quotient or North American Industry Classification System (NAICS) code as a method of determination (completed in Figure 4 below)
- General traffic counts from major thoroughfares and intersections
- Origin-Destination Analysis
- Longitudinal Employer-Household Dynamics (LEHD) analysis
- Community stakeholder surveys

Figure 4: Employment Types in Fort Lauderdale



Source: American Community Survey 5-Year Estimates, 2013-2017

A comprehensive research effort in these areas has the potential to yield a calculated and deliberate application of an advertising push, which will work to achieve the goals of a TDM program and sustain it in the long-term. This tactic can also be used to address a specific event in the traveling community, such as pick-up and drop-off at school. Data that is needed to evaluate this issue in travel include:

- Total enrollment by grade
- Geographic locations of largest enrollment groups

This information is displayed below in Figure 5 and Figure 6. Figure 5 displays the number of children enrolled by grade within City limits based on data collected in the American Community Survey (grades 5-8 and 9-12 hold the largest group of students in the area). Figure 6 displays snapshot of the Northwest-Progresso-Flagler Heights community elementary and high schools with half-mile walking and biking buffers surrounding the locations. This community was used as an example for the purpose of this guide.

Figure 5: Number of Students Enrolled per Schooling Type in Fort Lauderdale

1,421
People
Enrolled in Private School: Nursery or Preschool
Fort Lauderdale, FL

1,008
People
Enrolled in Public School: Nursery or Preschool
Fort Lauderdale, FL

299
People
Enrolled in Private School: Kindergarten
Fort Lauderdale, FL

1,494
People
Enrolled in Public School: Kindergarten
Fort Lauderdale, FL

1,139
People
Enrolled in Private School: Grades 1 to 4
Fort Lauderdale, FL

6,479
People
Enrolled in Public School: Grades 1 to 4
Fort Lauderdale, FL

1,207
People
Enrolled in Private School: Grades 5 to 8
Fort Lauderdale, FL

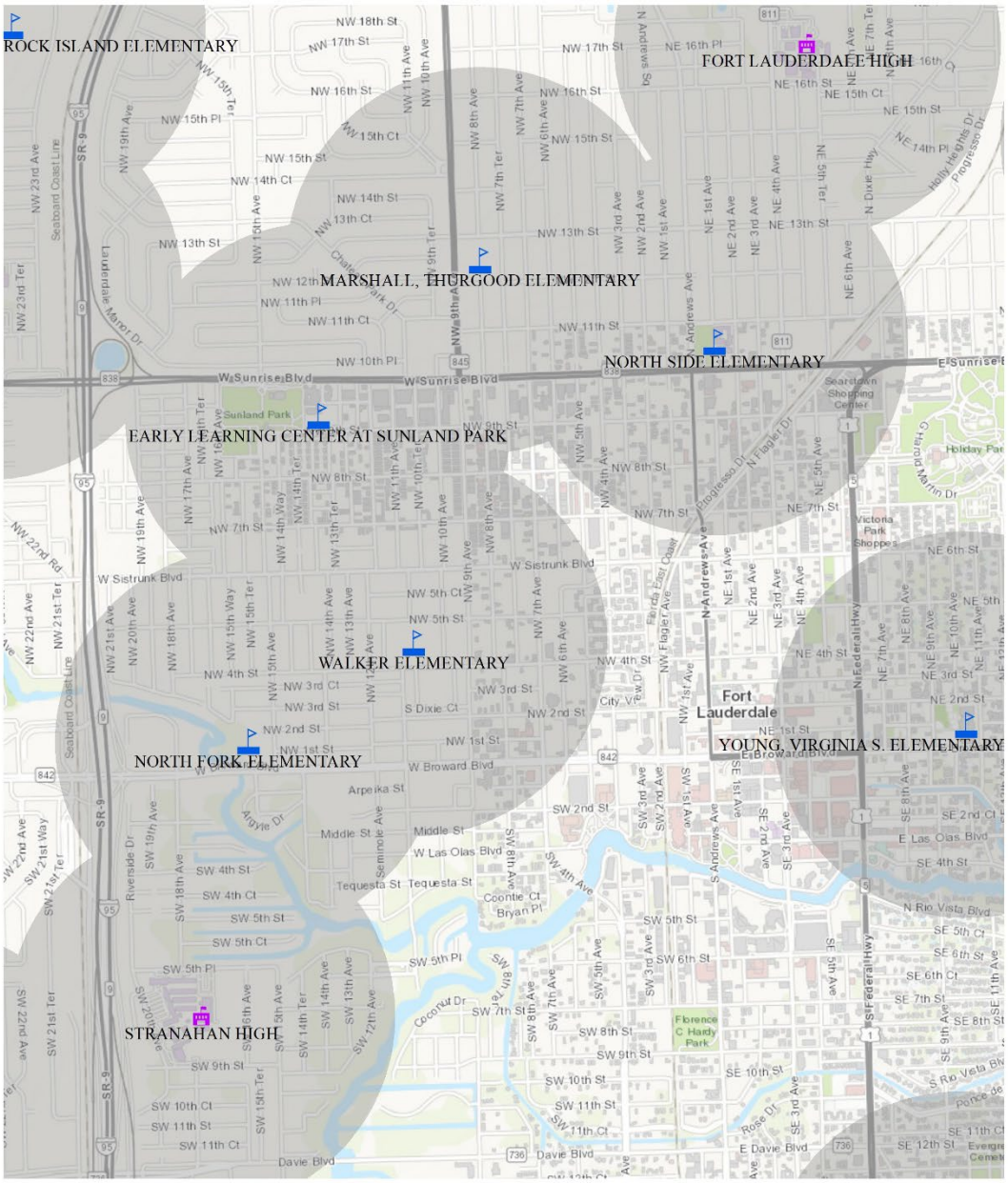
5,506
People
Enrolled in Public School: Grades 5 to 8
Fort Lauderdale, FL

2,020
People
Enrolled in Private School: Grades 9 to 12
Fort Lauderdale, FL

6,024
People
Enrolled in Public School: Grades 9 to 12
Fort Lauderdale, FL

Source: American Community Survey 5-Year Estimates, 2013-2017

Figure 6: Map of Elementary and High Schools in the Northwest-Progresso-Flagler Heights community



Using the data to select target groups (grades 5-8 and grades 9-12), analyzing where these group destinations are located using Broward County data and Geographic Information Systems (GIS), and determining the plausible walking/biking distance from those locations, a TDM marketing strategy could target the highest contributor of school traffic by geographical cluster. Depending on the traffic volume and reported congestion in the area, a marketing strategy could also reach out to select schools or facilities to market TDM strategies or apply specialized walking/biking programs.

Example and Resources: iCommute by SANDAG Walk, Ride, and Roll to School[8]

The San Diego Association of Governments (SANDAG) coordinates with call number 511 transportation information services to administer the iCommute TDM program. While this program targets all travelers, it has specific school TDM programming in order to facilitate non-vehicular travel to school for grades K-12 in both public and private schools. The program promotes active transportation among students who are in a walking or biking distance from their destination. Programs and classes offered are:

- **Elementary Safety Assembly:** Covers the safety basics of walking and biking to school
- **Middle/High School Bike Workshop:** Covers bike laws, bike handling, maintenance, and health
- **Bike Rodeo:** Aims at making students more confident bike riders with a bike skills event
- **Encouragement Ride:** Facilitates a ride for both students and parents in an urban setting
- **Bike Maintenance Quick Check:** Teaches basic bicycle maintenance and repairs by certified technicians
- **Balancing and Skateboarding Safety:** Teaches skateboarding skills and safety techniques

STRATEGIES IN TRANSPORTATION OPTIONS

The two previous sections describe essential components in a successful TDM strategy with regard to forming the necessary regulatory and social contexts for a program to thrive. Building a persuasive coalition around strategies in transportation choice is equally important as the choices themselves. The combination of a strong government-employer relationship and active public awareness campaign should promote demand-side strategies that (1) influence traveler behavior by providing alternative means of travel, (2) specialized programs that incentivize travel choice, and (3) encourage desirable user choices by making origins and destinations accessible by these transportation routines. These three goals can be achieved through local government-private sector coordination, marketing and public awareness, and targeted strategies in transportation options. This third and final element is the culmination of the first two topic areas mentioned and informs specific recommendations in Figure 7 below.

Prior to reviewing these recommendations, there are two emerging trends in transportation that should be explained further: the role of data and technology and the advent of micromobility. These trends are quickly changing transportation systems in cities both globally and nationally, and their importance is emphasized here as a method of assisting the City in thinking about TDM in the near and distant future. Equally, the strategies listed in Figure 7 will rely heavily upon these two topics.

[8] https://www.icommutesd.com/about-icommute

Data and Technology

The use of smartphones as an ancillary tool in transportation is heavily represented in transportation research. A recent telecommunications consumer survey indicates that over half of the traveling public utilizes an app-based mapping or navigation service while traveling, inclusive of all surveyed age groups (18 to 64 years of age).[9] Arguably, this has resulted in the advent of app-based travel through companies such as Uber or Lyft, while also being woven into transit applications. The ability of users to independently view real-time information of travel choices has shown to greatly influence decision making. TDM programs have adapted to this surge in demand for data and technology integration and have introduced new programs that lean into this trend.

Report: The Role of Emerging Technology in TDM, from the Texas A&M Transportation Institute[10]

Most TDM programs today provide access to their information and services through a website and in some cases a mobile application for smartphones and other wireless devices. Smartphones directly enable new opportunities for real-time demand management by providing easy and instantaneous access to navigation, weather and traffic updates, real-time transit schedules, ride matching services, and access to information about transportation options at any location. Using these tools, travelers can assess conditions in real time to identify the best route and schedule for traveling. Many of these tools enable users to track their travel decisions and incorporate incentive or rewards programs offered by traditional TDM programs. For example, Seattle's RideshareOnline.com can be used by individuals or tailored to specific company needs by limiting searches to a certain work site and adding employer promotions and incentives.

Micromobility

Another fast-moving trend in transportation is micromobility, which is loosely defined as a shared mode of travel within an enclosed system and usually owned by a private company. The U.S. Department of Transportation defines micromobility as "a privately owned and operated shared transportation system that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling. The vehicles generally include vans and buses."[11] Other key components of this system are:

- Docked and dockless bikeshare/e-scooter systems
- Operate as a fleet and maintained by the company
- Flexibility in routes and access

[9] https://www.pewresearch.org/fact-tank/2016/01/29/us-smartphone-use/

[10] https://policy.tti.tamu.edu/congestion/prc-report-the-future-of-tdm-technology-and-demographic-shifts-and-their- implications-for-transportation-demand-management/

[11] https://ops.fhwa.dot.gov/publications/fhwahop16022/apb.htm

- Initial period of free travel
- Pay-per-minute or pay-per-mile features
- Payment through smartphone apps
- Used within moderate to high density urban environments

In 2018, there were an estimated 84 million trips made on shared micromobility services within the 25 cities in the United States having fully functional shared systems (eight of which are in the state of Florida).[12] In implementing micromobility, the National League of Cities has put together a comprehensive guide on the micromobility movement (noted as "microtransit" within the guide). This report provides an overview of opportunities and constraints cities may face when regulating around the influx of e-scooters and bikeshares. A synopsis of the report is provided below.

[12] https://nacto.org/shared-micromobility-2018/

Report: Micromobility in Cities, A History and Policy Overview-- Recommendations[13]

Get out in front of surprise deployments

"A major trend in micromobility is that companies are quicker to ask for forgiveness than permission when it comes to deployment. Companies have rapidly deployed in many markets without any notice to city governments, putting officials on their heels. In San Francisco and Norfolk, VA, this led to temporary bans on operation. This sort of relationship is untenable. Micromobility providers should be communicating with city officials and stakeholders. But for city officials, the risk is in not being proactive. Cities that remain unprepared are essentially relinquishing control of public assets to private companies, while simultaneously taking on the implementation costs of incorporating a new mode. Furthermore, local governments will be held accountable by residents if there are any mishaps or friction. City officials can head this off by communicating with micromobility companies from the beginning, and proactively considering any regulatory processes that might take place."

Consider safety

"One of the major lessons gleaned from the short history of micromobility is that companies will encourage but not enforce safety standards. That responsibility falls squarely on the city's shoulders. Understanding how to keep residents safe while allowing them to utilize these new services is one of the biggest challenges cities [are facing]. Of course, safety means more than requiring riders to use helmets or imposing speed limits; it means reevaluating the city's entire transportation ecosystem. Examinations of how riders interact with sidewalks, bike lanes, roads, cars, pedestrians, potholes and other parts of public infrastructure all factor directly into safety concerns."

Reevaluate bike infrastructure

"Micromobility also promises benefits for residents who already use bicycles as a primary mode of transportation. As

Utilize pilot programs to consider right-of-way policy, cost structure, sustainability, and opportunities to work with different companies

- "Right-of-Way Policy: Cities like Norfolk, VA and San Francisco used their right-of-way policy to substantiate their temporary bans/impoundments in the law. Exploring or amending your right-of-way policy or related fees can help set formal boundaries with companies and [with] law enforcement and allow city DOTs time to incorporate curb space management into full deployment.
- "Cost Recovery Mechanisms: Kansas City and Washington, D.C. are taking two very different approaches to cost recovery. On the one hand, Kansas City is using the revenue from scooters to fund a separate account dedicated to expanding [multimodal] transportation infrastructure. On the other hand, Washington, D.C. is requiring a $10,000 bond to cover the costs of removing broken or improperly parked scooters. Developing a clear plan for what your city will charge micromobility providers and how revenues will be distributed should be a key part of any pilot.
- "Sustainability: Micromobility promises smaller, more affordable and more environmentally sustainable modes of transportation. While many companies have declared success on this front, cities can use a pilot program to understand who is riding, how many bike/scooter trips are replacing car trips, and other indicators that might be important to a city's sustainability goals.
- "Working with Different Providers: While a few companies have shot out of the gate in the micromobility space, there are a multitude of providers, and they all have slightly different approaches and business models. A pilot program is an

[13] https://www.nlc.org/resource/micromobility-in-cities-a-history-and-policy-overview

Kansas City demonstrates, there is demand for expanded bicycle and [active] transportation infrastructure. While many stakeholders in the biking community see this as a positive shift toward more bicycle-friendly communities, there are other stakeholder groups that are not as enthusiastic about dedicating more space to other modes. Along with potential for increased safety and widespread adoption of smaller, more affordable and more sustainable modes, micromobility produces a real tension with urban commuters in cars. This should be a key consideration in deployment strategies. Making the case for, and taking the steps toward, a balanced expansion of bike infrastructure, will be a nuanced and difficult path."

Reach out and connect with other cities

"Many of the cities in this report are taking innovative approaches to the growing wave of micromobility services, using some or all of the strategies outlined above. City staff around the country have engaged in creative responses to service providers' surprise deployments, which put them in a position to succeed in 2019. Their work also allows them to share knowledge with other cities. When staff from Los Angeles visited Seattle to learn from their experiences with micromobility, they came away determined to make data open and usable. Their efforts created the Mobility Data Specification, which is now available to all cities. This experience could be replicated to address issues around equity, cost structure and vehicle caps and to generate best practices and standards across the country. Setting these standards could set the tone for how service providers interact with cities in the future."

opportunity to explore every option and determine which of the many micromobility companies might be the best partner to meet your community's specific mobility needs. Though many of these companies provide similar services, the way they cooperate and interact with cities can vary dramatically."

Develop a plan and agreement for trip data

"Dockless bikes and scooters are unique in that they were popularized during an era of connected devices. This means providers have an unprecedented amount of quality data on vehicle locations and trips, which can be critical to city governance decisions. Not only can this data help bolster safety and accountability efforts, but it can also help cities see who is using these services, where they're going and when, and how well their current transportation infrastructure maps to that information. Los Angeles recognized this early and developed its open source Mobility Data Specification for any city to use. Carefully planning and executing data-sharing agreements with these companies may be one of the most important ways to hold them accountable and use these technologies to move toward your city's transportation goals."

Focus on equity

"Providing equitable transportation options is one of micromobility's greatest potential offering. Some cities, such as Columbus, Ohio, and Washington, D.C., are requiring companies to deploy in underserved areas so as to ensure these new pilots and programs align with their goals around equity. Many cities are also working with companies to provide solutions and access for unbanked users. While there are several ways to consider equity and ensure it aligns with your city's goals, equity should be central to deployment negotiations."

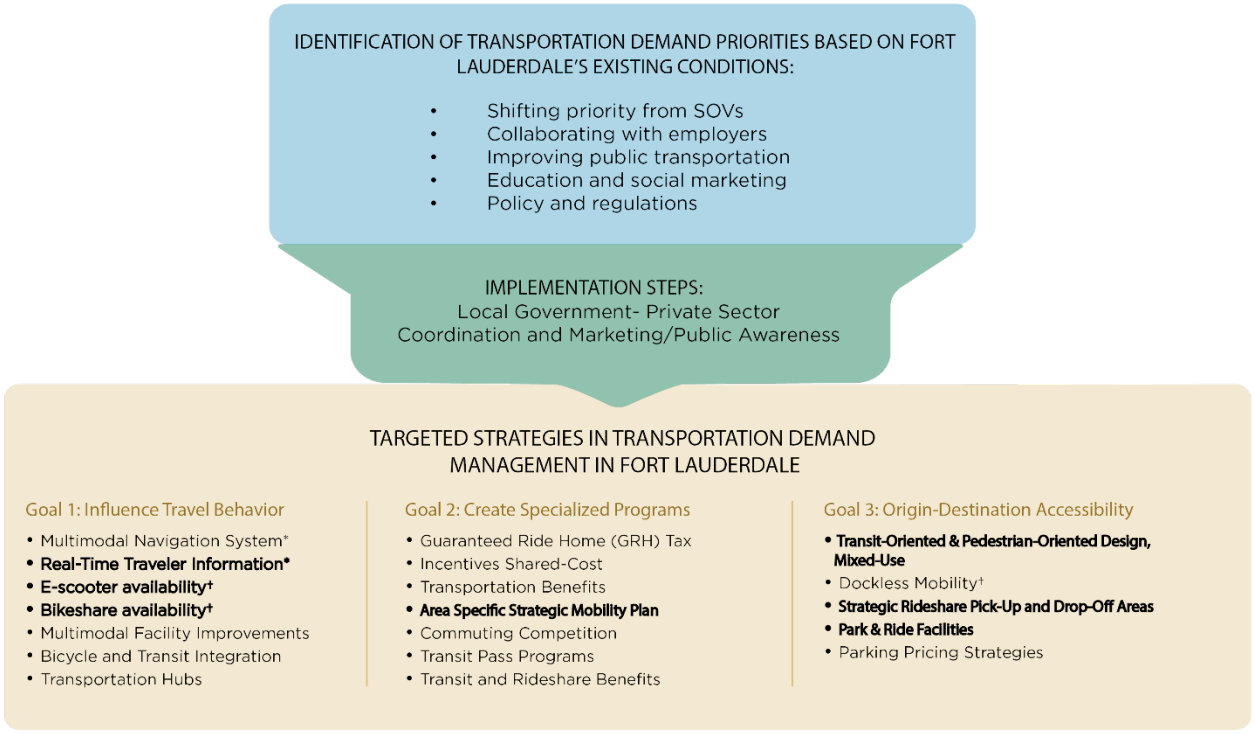
Recommendations

The distinctive context of Fort Lauderdale's regional economic importance, interaction with regional governments, and built environment can garner a large number of recommendations that may fit into a successful TDM program. For this reason, Figure 7 uses the five TDM priorities listed in the Background section of this memo to inform the first two implementation steps in local government-private sector coordination and marketing/public awareness, which provides the environment to assign strategies to the goals mentioned previously in this section:

1. Influence traveler behavior by providing alternative means of travel
2. Create specialized programs that incentivize an alternative travel choice
3. Encourage desirable user choices by making origins and destinations accessible by alternative transportation routines

The targeted strategies listed in Figure 7 are not comprehensive of what can be done to address these goals, but they form as a foundation to add appropriate strategies. Also listed in the figure are important strategies as they relate to data and technology and micromobility. Bolded strategies are already being used in the Fort Lauderdale area.

Figure 7: Other Targeted TDM Strategies



Source: Next Stop: Fort Lauderdale, Multimodal Community Planning Study

** Data- and technology-based strategies*

† Micromobility-based strategies

Note: Descriptions of the strategies are located in the glossary

Bolded strategies are those already implemented in Fort Lauderdale

CASE STUDIES

The three case studies below highlight a range of TDM strategies and levels of implementation. Each case study community has taken a different approach to TDM that may be relevant for Fort Lauderdale as it considers future TDM policies and programs.

Arlington County, Virginia, represents a long-established series of TDM policies that showcases a potential long-term future for Fort Lauderdale if it chooses to pursue progressive TDM programs. Atlanta has laid the groundwork to begin implementing a comprehensive set of TDM policies, and in the process, it created a clear roadmap for other cities to follow. Seattle, and its downtown TMA, are working together with the downtown business community to provide incentives and enforce regulations that have led to some of the lowest drive-alone rates of any city in the country.

CASE STUDY: ARLINGTON COUNTY, VA

Arlington County, Virginia, has one of the most comprehensive TDM programs in the country. It is also a community that shares many similarities with Fort Lauderdale. Arlington County has a similar population to Fort Lauderdale: according to the 2017 ACS 5-year estimates, Arlington County has 229,534 residents compared to Fort Lauderdale's 177,175 residents.[14] Both communities are located in a suburban setting outside of a large east coast city, and the Washington and Miami metropolitan statistical areas are the sixth and seventh largest in the country, respectively.[15]

Arlington County Commuter Services (ACCS), the TDM agency for the county, was established in 1989, with the goal of increasing economic vitality, reducing traffic congestion, decreasing parking demand, promoting HOV travel, improving air quality, and improving mobility.[16] This 30-year period has reshaped the county into a transit-oriented community with multiple travel options and a drive-alone commute share of just 41 percent.[17] Arlington County is the result of what a long-term strategy focused on land use driven by transit-oriented development can produce. Even without significant land use changes, the county remains a fascinating case study for shorter-term TDM policies and programs that are more directly applicable to Fort Lauderdale.

Focus on Active Transportation

The small, urban county is a perfect place for people to commute by walking and bicycling. ACCS runs websites with information specifically for people walking and biking: www.WalkArlington.com and

[14] https://www.socialexplorer.com/explore-tables

[15] https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk

[16] https://www.commuterpage.com/about/arlington-county-commuter-services/

[17] https://1105am3mju9f3st1xn20q6ek-wpengine.netdna-ssl.com/wp-content/uploads/2018/01/Arlington-County-2015- Resident-Travel-Survey.pdf

www.BikeArlington.com. WalkArlington provides maps for walking tours around the county, flyers with transportation and walking information at urban centers, Safe Routes to School initiatives, and information on safety and legal rules around walking. BikeArlington provides maps by bike infrastructure types and by bicyclist comfort level, bike events and classes, a data portal to download and review bicycle and pedestrian data throughout the county, and information about Capital Bikeshare, the region-wide bikesharing program. There are currently 92 bikeshare stations across the county (the entire network has more than 500 stations and 4,300 bikes).

The county's investments in infrastructure and multi-use paths have been integral to improving walking and biking conditions for people. The centerpiece of this system is the Arlington Loop, a 16-mile trail system that covers three sides of the county along five different multi-use paths.[18] The Arlington Loop runs along the Potomac River, Ronald Reagan Washington National Airport, and along the Washington and Old Dominion Trail, a 45-mile path that is a crown jewel in the region's multi-use path network. It also provides nearby multimodal access to subway and bus lines.

Harnessing Technology

Another area where Arlington County's TDM programming excels is how seamlessly it works with surrounding jurisdictions. Arlington County is only 26 square miles large, and many people living there need TDM policies and programs that work for their trips to other counties and states. The county is at Washington D.C.'s doorstep, and it is also very close to other cities and counties in both Virginia and Maryland. Despite multiple jurisdictions all within the greater Washington region, Arlington County has harnessed technology to create a seamless trip-planning and TDM-focused program.

The county runs the www.CarFreeAtoZ.com website and mobile phone app, which is a multimodal trip-planning tool for the entire Washington region, inclusive of Arlington County. Bike Arlington runs a crowdsourced online tool called RackSpotter that catalogs bicycle racks across the entire region and lists the number of spaces for parking bikes. And the website www.CarFreeNearMe.com, also run by Arlington County, identifies all transportation modes that are available within a specified radius of one's location. The site identified bike infrastructure, subway and commuter rail stops, bikeshare locations, carsharing services, and bus stops for transit agencies based in D.C., Maryland, and Virginia.

Arlington County and the greater Washington region is flooded with transportation options. The county has made it easy to sort through all of these options and help encourage people to reduce their drive-alone trips and travel another way.

[18] http://www.bikearlington.com/wp-content/uploads/2017/04/Self-Guided-Route-Map_Arlington-Loop-min.pdf

A Physical Presence with Commuter Stores

In addition to a strong online presence, with websites dedicated to walking, biking, and trip planning, Arlington County also has a physical presence for promoting TDM. The county runs five "Commuter Stores," located at major subway and bus terminals across the county. These stores offer information and personalized assistance for people trying to commute and travel across the region, and they sell tickets and passes for various transit modes. The Commuter Stores also promote the vanpool, carsharing, ridematching, and guaranteed ride home programs.[19] In addition, the county operates several mobile Commuter Stores at locations all across the county and in Washington to meet people who normally wouldn't come across a brick-and-mortar Commuter Store on their trip.

TDM programs and policies are designed to be flexible to people's unique needs, and the region's multimodal transportation network is designed to help people get everywhere they need to go. The online tools allow a level of customization and personalization. But Arlington County has not lost sight of providing individual-level service to people who need to get around. Whether it is convincing someone to become a choice transit rider or if it is helping a lower-income resident get to all of their weekly destinations without a car, this personalized service can create a lasting impression and better promote non-drive-alone travel.

Reducing Parking Minimums Around Transit

Given the amount of high-capacity mass transit in Arlington County, the county is taking steps to reduce parking minimums in new residential developments that are located along or nearby these mass transit corridors. In November 2017, Arlington County set new guidelines for reducing off-street residential parking along the two subway corridors in the county. Arlington County pursued these options as a long-term strategy based off of its decades-long investments in TDM policies and programs.

The new guidelines establish minimum parking ratios of 0.2 to 0.6 spaces per unit, depending on proximity to these mass transit corridors. Additionally, the guidelines state that 1.65 spaces per unit is the threshold for providing other mitigations to reduce drive-alone vehicle use.[20] In 2019, the county is looking at further reductions to minimum parking requirements in these areas.[21]

The county makes clear that these are "guidelines" and not requirements and that they will not impact existing developments. Any new development with reduced parking minimums will be supported if the existing multimodal transportation system can handle it. And since off-street parking often adds

[19] https://projects.arlingtonva.us/wp-content/uploads/sites/31/2014/03/DES-ACCS-FY18_TDM_Strategic_Plan_FINAL_VERSION.pdf

[20] https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/5/2018/10/offstreet_residential_parking_guidelines_adopted.pdf

[21] https://www.arlnow.com/2019/03/14/county-considers-further-reducing-parking-requirements-for-developments- along-r-b-corridor/

considerable costs to a development, affordable housing projects could have even lower minimums to help keep housing costs down for residents. This level of flexibility may create more work for the county, but it helps create solutions that are tailored to each project while advancing the county's goal of reducing drive-alone trips.

Looking to the Future

Even through its long history and active presence in the community, ACCS recognizes that there are communities that have little to no interaction with their TDM programming. This work will involve a lot of outreach to historically underrepresented groups (minorities, low-income, and senior populations, specifically) and will necessarily involve a focus away from both commuting trips and peak hour trips.

The county's TDM planning document outlines several equity initiatives and strategies to pursue during the current five-year planning cycle through fiscal year 2023. These include working with and developing community partners to foster TDM use for minority and low-income residents and creating payment mechanisms and options for those who are unbanked.[22] From Fort Lauderdale's perspective, the county's work with seniors may be the most interesting. The county has a plan to develop educational and informational campaigns for seniors and "persons aging in place."[23] While there are not other identified programs in place in Arlington County, thinking about an aging in place population as Baby Boomers get older will be vital for the long-term success of any TDM program.

CASE STUDY: ATLANTA

Unlike Arlington County, the city of Atlanta does not have a decades-long track record of planning and implementing TDM programs. In fact, Atlanta has only just laid the groundwork to implement TDM policies and programs to reduce single occupancy vehicle trips and improve public health. At this stage, Atlanta and Fort Lauderdale are not that far apart since neither city has a robust TDM program, but Atlanta can provide a roadmap for Fort Lauderdale for how to create a framework for its own TDM policies and programs.

Atlanta's step-by-step process is straight-forward and replicable for Fort Lauderdale:

1. Set future mode split targets
2. Study opportunities and barriers for where it is possible to live car-free
3. Plan transit expansions and promote transportation choices
4. Foster major transit corridors
5. Create parking policies

[22] https://projects.arlingtonva.us/wp-content/uploads/sites/31/2014/03/DES-ACCS-FY18_TDM_Strategic_Plan_FINAL_VERSION.pdf

[23] Ibid

6. Streamline local and regional TDM planning efforts

Set Future Mode Split Targets

Currently, 69 percent of all commuters in Atlanta drive alone.[24] Atlanta is consistently ranked near the top of national lists for cities with the worst traffic and highest commute times. To fight against congestion, traffic, and pollution, Atlanta has decided against adding new roadway infrastructure. Instead, Atlanta is pursuing strategies to make the most of the existing roadway network and promote a multimodal transportation system.

The first thing to do is to set mode share targets for all trips, including commuting trips. Table 2 outlines Atlanta's current mode split and future mode split targets, as stated in *Atlanta's Transportation Plan* from 2018. Drive alone rates will need to drop a minimum of 19 points to reach this goal, while the transit/walk/bike mode share will need to double at a minimum to reach the city's goal.

Table 2: Current and Future Mode Splits in Atlanta

	Drive Alone	Drive Together	Transit/Walk/Bike
Current Mode Share	54%	29%	17%
Future Mode Share Target	35% (maximum)	30% (maximum)	35% (minimum)

Source: Atlanta's Transportation Plan: Final Report, 2018

Targets such as these are not supposed to be easy to reach. Setting aggressive mode split targets can then allow a city to adopt policies that promote the mode split goals. However, Atlanta's Transportation Plan is predicated on 1.3 million new residents and 1.2 million jobs coming to the city in the future.[25] Those new residents and commuters cannot be accommodated on existing roads at current drive alone levels, so TDM and a broad modal split shift will help ensure that the city continues to move.

Understanding Opportunities and Barriers

After setting their goals, Atlanta ran a city-wide analysis to better understand which parts of the city are best suited for a less car-dependent lifestyle. The city created a list of eight factors that impact car use:[26]

1. Walking Access to MARTA Rail Stations
2. Bicycle Access to MARTA Rail Stations
3. Walking Access to Short Headway Bus Service

[24] https://transportationplanatl.blob.core.usgovcloudapi.net/transportationplanatlsite/ATPPlan.pdf

[25] Ibid

[26] https://gis.atlantaga.govshiftatlanta/

4. Access to Groceries
5. Bike Share Coverage Area
6. Slope (likely not a factor for any similar analysis in Fort Lauderdale)
7. Intersection Density
8. Variety of Destinations

Each factor received a different weight as determined by city planning staff. Atlanta was divided into 102 neighborhood units of similar sizes, and each unit received a score along a most suitable to least suitable continuum for reducing car dependency.

These factors are not the sole factors that determine whether a person can live a less car-dependent lifestyle. For example, the presence of sidewalks and bicycle infrastructure was only considered through the lens of other services, not as a stand-alone factor. These factors were chosen to fit Atlanta's unique transportation system and geography.

This planning effort does not necessarily identify where TDM programs should be focused. Such an analysis does not account for local demographic information that is vital for creating programs that serve the local community, nor does it apply any type of equity lens. However, it does identify areas where TDM programs are likely to have the greatest impact and should prioritize where the city spends its time and resources.

Plan Transit Expansions and Promote Transportation Choices

The City of Atlanta and MARTA, the regional transit operator, are working together to improve existing bus and fixed rail service and expand service to new areas of the city. While walking and bicycling are suitable transportation options for short trips and for able-bodied people, transit can serve a wider swath of users, cover longer trips, and move people more efficiently. A strong transit network is necessary before TDM programming can be built to take advantage of this network.

Broward County has already begun receiving this sales tax money.[27] Coordinating future transit system plans at the county level with city-level land use planning, especially as the Fort Lauderdale planning area continues to redevelop, should be designed to deemphasize drive alone behavior.

Foster Major Transit Corridors

The Atlanta BeltLine, a 22-mile multi-use path that loops around Atlanta and is currently under construction, has changed the way that the city thinks about transportation and has built new connections across the city for people walking and biking. This project has provided an anchor for

[27] http://www.broward.org/PennyForTransportation/Pages/default.aspx

thinking about new cross-town transit routes and connections that help connect the city and provide more options for non-car travel outside of downtown.

While commute trips supply a lot of demand to a city's transportation network, effective TDM programs must look at all trips to effectively reduce drive-alone trips. Creating new non-vehicle transportation routes and connections that focus outside of the city center will make it easier for people living outside of the central business district to make non-work trips (such as trips to the grocery store, restaurants, and errands) without using a personal automobile.

Create Parking Policies

One way to reduce drive alone trips is to increase the cost of taking that trip by car. In Atlanta's Transportation Plan, the city will implement parking pricing controls and develop a cordon parking pricing strategy. While the policy has yet to be developed, the policy goal is to reduce drive alone trips. Creating a pay-to-park system, or increasing the cost of parking, is proven to reduce drive alone mode share, and implementing a similar program in Fort Lauderdale would be expected to have a similar impact.

Streamline Local and Regional Efforts

According to American Community Survey 2017 5-Year Estimates, Atlanta has 465,230 residents, while the Atlanta metropolitan statistical area has 5,700,990.[28] By these estimates, Atlanta residents accounts for just over eight percent of all residents in the greater urbanized area. So while reducing drive alone trips at the city-level is an important step, the congestion, health, and pollution benefits from reducing drive-alone trips may be minimal if the 92 percent of non-Atlanta residents in the region continue their same transportation habits (namely, traveling primarily in drive alone trips).

The Atlanta Regional Commission, the metropolitan planning organization for the Atlanta region, published a regional TDM plan in 2013.[29] A major goal from that plan is to streamline regional coordination of TDM policies and programs. This includes creating a marketing manager position for local marketing and outreach, establishing a TDM Advisory Committee, and aligning TDM decision making efforts within existing regional planning processes.

Similarly, Fort Lauderdale is a city of 177,175 residents in a broader region of 6,019,790 residents (totaling 3 percent of the Miami metropolitan statistical area). It is important that Fort Lauderdale works with its neighbors and with Broward MPO, as well as its partners in Miami-Dade and Palm Beach counties, to coordinate TDM policies and programs at a higher level.

[28] https://www.socialexplorer.com/explore-tables

[29] https://cdn.atlantaregional.org/wp-content/uploads/tdmplan-final-120413.pdf

CASE STUDY: COMMUTE SEATTLE

Seattle is one of the fastest-growing cities in the United States. According to the Downtown Seattle Association, more than 94,000 jobs were created between 2010 and 2018 in downtown Seattle alone.[30] The city is the headquarters for Amazon, which is quickly adding more jobs in the South Lake Union portion of downtown Seattle.

While thousands of people have moved to the city, and thousands of new jobs have been created, the city's streets are not getting any wider to accommodate this growth. Instead, Seattle is focused on promoting transit use, walking, and bicycling. According to a Commute Seattle 2017 mode split survey, only one in four commute trips to and from downtown are drive-alone trips.[31]

Founded in 2004, Commute Seattle is a non-profit organization that works with businesses and the community in downtown Seattle to reduce drive-alone trips, promote a variety of commute options, and champion transportation demand management. Commute Seattle receives funding from the City of Seattle, King County Metro (county transit provider), Sound Transit (regional transit provider), and the Downtown Seattle Association.

Commute Seattle is at the forefront of promoting city policies around mode splits and transportation choices. Because Commute Seattle is a transportation management association and not a government agency, it has greater leeway to work with businesses and organizations to promote the city government's goals without being viewed as a government regulator. But Commute Seattle also benefits from government enforcement mechanisms to help reduce drive-alone trips. Both the City of Seattle and Washington State have laws that promote reducing drive-alone commute trips.[32] In general, being an independent agency that sits between government and business has put Commute Seattle in a position where it can be most effective. From this place, it can negotiate public-private partnerships that make it easier for everyone to get where they're going in an increasingly dense city.

Working with Businesses and Understanding Commute Mode Shares

Commute Seattle, with support from local governments, recognizes that businesses are a great partner for working to reduce drive-alone trips. Businesses are nimble and able to adapt to market change – as a result, they can move quickly to change incentives for how employees travel. And the economies of scale that allow businesses to provide employees with health insurance can also be leveraged for transit subsidies.

Commute Seattle provides three core functions. First, they help businesses establish a transportation coordinator who will champion TDM policies for the company (and with ongoing support from

[30] https://downtownseattle.org/programs-and-services/research-and-development/employment/

[31] https://commuteseattle.com/mediakit/2017-center-city-commuter-mode-split-survey/

[32] https://www.wsdot.wa.gov/transit/ctr/rules-policy

Commute Seattle). Second, Commute Seattle is required to do an annual commuter mode split survey. The most recent version of this found that just one in four downtown commuters drives alone to work. Third, Commute Seattle does regular surveys of facilities and TDM programs that businesses are offering to its employees. These core functions are required by city code and state law.

Commute Seattle and the City of Seattle are exploring a new definition for how trips are counted. Right now, the emphasis on "commute" trips captures people traveling during peak times and discounts lower wage work or trips to the grocery store, restaurants, school, and so on. Such a change in which trips are counted could lead to a higher number of drive-alone trips, but it would also be a more accurate and equitable understanding of how people are using the transportation system in downtown Seattle and beyond.

Implementing Seattle's TDM Goals

Every four years, the Seattle Department of Transportation creates a Commute Trip Reduction (CTR) strategic plan that sets drive-alone and vehicle miles traveled (VMT) targets for network areas of the city. In the draft 2019-2023 CTR Strategic Plan, the Downtown area is split into five network areas with drive-alone mode commute mode splits targets ranging from 15.2 percent to 41.6 percent by 2023/2024.[33] Network areas outside of downtown Seattle have higher drive-alone mode split targets. The goal is to reach a 28.8 percent citywide drive-alone commute mode share target by 2023/2024, and to reach 25 percent by 2035/2036.

The City does not impose penalties on businesses or organizations who do not meet the CTR goals. Instead, the City uses carrots to promote TDM policies and encourage people to change behavior away from drive-alone commute trips. While that could change in the future (and communities like Santa Monica, California do have such enforcement), Commute Seattle is the arm that works with businesses to promote the TDM practices that will help meet the city's CTR targets.

Unique Development Review Processes

Commute Seattle works with developers, the Seattle Department of Transportation (SDOT) and the Seattle Department of Construction and Inspections (SDCI) to create transportation management programs (TMP). These are separate from Seattle's CTR goals – CTRs specifically work with employers, while TMPs are applied to the land that the building will occupy.[34] There are many overlapping strategies, but how they apply are different.

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33 https://www.seattle.gov/Documents/Departments/SDOT/TransportationOptionsProgram/CTR_Final_Plan_20190822.pdf

34 https://www.seattle.gov/transportation/projects-and-programs/programs/transportation-options-program/transportation-management-programs-

Traditional development review looks at the site plan and the added trips that are expected to come from that site plan. In Seattle, the location of the land, not the size or scope of the development, determines what the TDM plan should be. Commute Seattle, in partnership with SDOT and SDCI, plays a big role in negotiating the TMP for any new downtown development.

Major Institution Master Planning

There are 13 major institutions identified through land use and zoning regulations in Seattle. These institutions primarily consist of hospital complexes and higher education campuses. Seattle has set rules that tie development and master planning expansion approvals to the city's TDM goals. If an institution is out of compliance, then the City will not issue development permits.

Some may view this policy as anti-growth. From the city's perspective, however, existing infrastructure cannot handle new drive-alone trips, and new roadway infrastructure will not be coming. To accommodate this growth, trips must be taken in other ways. Ensuring that a major institution is meeting their TDM goals prior to expansion is a signal that they take these goals seriously and that they have the internal structure in place to promote non-drive-alone trips.

CONCLUSION

Continued redevelopment activity within the planning area and in downtown Fort Lauderdale, and a transportation/transit vision will shape the potential for TDM programs and policies in downtown Fort Lauderdale. The penny sales tax for transportation will provide financing opportunities to improve transportation infrastructure with a focus on TDM policies. There is no better time for the City of Fort Lauderdale to start the necessary work to create a TDM program.

First, the City of Fort Lauderdale needs a thorough understanding of how people commute now (detailed in earlier project memos and shown in Figure 3 of this guide) and where there are opportunities to implement programs and policies that could shift the city's mode split away from drive-alone trips. The City of Atlanta, a similarly-sized urban region to the Miami-Fort Lauderdale area, provides a roadmap of steps to be completed to better understand where limited government resources should go.

The success of any TDM program is intimately tied to a city's connections to private and non-profit partners who also become champions of promoting non-drive-alone commuting and travel. The Downtown Fort Lauderdale Transportation Management Association operates the Sun Trolley and has a long list of business and community partners. This TMA is already well-suited to spearhead coordination between the city and the business community to sponsor and encourage TDM policies. Commute Seattle is a sterling example of what is possible when everyone works together toward a common goal.

Through careful analysis and coordination with businesses and organizations in Fort Lauderdale, actionable TDM policies and programs should become clear. Arlington County has a treasure trove of strategies to peruse for inspiration. With increasing technology and increasing transportation options, the City of Fort Lauderdale should create TDM programs and policies that address micromobility and incorporate current technology. Including these two building blocks should encourage a TDM program that is nimble enough to adjust to whatever future innovations and ideas may be coming.

GLOSSARY OF TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Area Specific Strategic Mobility Plan: Targeting a highly traveled corridor or activity center for TDM strategies by planning for that areas unique circumstances. An example in the Fort Lauderdale Area is the NPF-CRA Mobility Master Plan[35]

Bicycle and Transit Integration: The facilitation of bicycling and using transit by using strategic transit stop location that also have sophisticated bicycle facilities

Bikeshare Availability: The creation of a shared mode of transportation using docked or dockless bicycles. Broward County currently facilitates the BCycle program[36]

Commuting competition: Participating offices encourage bicycling and walking to work through interoffice competition

Compressed work week: Employees may work more hours during certain days to compress the work week into 3-4 days

Employee parking pricing: Companies charge for parking at their parking lots or eliminate existing subsidies for off-site employee parking

E-Scooter Availability: The creation of a shared mode of transportation using docked or dockless bicycles. E-scooters are currently provided through Gotcha[37]

Flextime: Employees are allowed some flexibility in their daily work schedules to reduce travel during peak hours

Guaranteed Ride Home (GRH): Providing occasional rides to commuters who typically use alternate modes of transportation

Mobility working incentives: Providing incentives to employees who work remotely while traveling for work

Multimodal Facility Improvements: Targeted improvements to multimodal facilities such as improved bicycle storage and lockers, implementation or bicycle lanes and shared paths, and traffic calming measures near bicycle/pedestrian generators

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[35] https://www.npfmobilityplan.com/

[36] https://broward.bcycle.com/

[37] https://ridegotcha.com/location/fortlauderdale/

Multimodal navigation: The integration of multi-modal modes of travel into navigation apps

Park & Ride: Parking locations at major transit stops or stations within the urban fringe[38]

Parking cash out: Employees who are offered subsidized parking are also offered the cash equivalent if they use alternative travel modes

Preferred parking for carpooling: Reserves high priority parking spaces within a parking lot for those arriving by carpool or vanpool

Real-Time Traveler Information: Providing instant, real-time information related to traffic, availability of rideshare and microtransit, or other means of travel to that the user may utilize in their decision making

Satellite office locations: Partnering with other organizations to share space for office work outside of the Central Business District or closer to the employee's home

Shared-Cost Transportation Benefits: Employers absorbing some of the cost of vanpooling or carpooling to encourage employees travel together

Shift staggering: The coordination and staggering shifts to reduce the number of vehicles arriving and leaving at a certain time

Short-term vehicle rentals: Utilizing companies such as Zipcar or Car2Go for local residential or business use

Strategic Micromobility Locations: Placing docking stations and parking zones near transportation generators such as retail and commercial areas as well as employment centers

Strategic Rideshare Pick-Up and Drop-Off Areas: Minimizing the conflict between motorists by placing pick-up and drop-off zones away from congested intersections and busy corridors[39]

Tax Incentives: Taking advantage of commuter benefit programs that allow users to save money when using alternate forms of transportation[40]

Telecommuting: Employees who work from home rather than a headquarters or office

Transit and rideshare benefits: Free or discounted transit fares provided to employees

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[38] http://www.broward.org/BCT/Riders/Pages/default.aspx

[39] https://www.fortlauderdale.gov/departments/transportation-and-mobility/transportation-division/construction-projects/las-olas-boulevard-six-month-safety-demonstration-project/design

[40] http://www.broward.org/BCT/Pages/RideAndSave.aspx

Transit Pass Programs: The provision of subsidized or free passes to individuals who travel using regional rail or bus systems[41]

Transit-Oriented & Pedestrian-Oriented Design, Mixed-Use: Often noted as a long-term vision, this method makes land use changes that facilitate TDM practices

Transportation Hubs: The creation of specialized terminals that work as a centralized location for transportation modes

Travel allowances: A financial payment provided to employees instead of parking subsidies. Commuters can use this money to pay for parking or for another travel mode.

Travel reimbursement: Business travel reimbursement for alternate modes such as transit or ridesharing

[41] http://www.broward.org/BCT/Pages/FaresPasses.aspx