Work Cape Fear:
Expanding Commuter Options in the Cape Fear Region
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Acknowledgements

This plan was made possible by the Transportation Demand Management (TDM) Committee. This committee is comprised of representatives from Brunswick, New Hanover, and Pender Counties including elected officials, planners, major employers, NCDOT, and the local transit agency. This plan reflects the Committee’s priorities and dedication towards implementing the plan recommendations.

The TDM Committee includes:

Pat Batleman, Leland Mayor Pro Tem
David Bellegante, New Hanover Regional Medical Center, Director of Facilities
Sharon Boyd, UNCW, Associate Vice Chancellor - Business Services
Kyle Breuer, Pender County, Planning Director
Adrienne Cox, FOCUS
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Executive Summary

Since the opening of Interstate 40 connection to Wilmington in 1990, population in Brunswick, New Hanover, and Pender Counties has increased dramatically. In the 1990’s, Brunswick County’s population increased 39.7%, New Hanover County’s population increased 25.4%, and Pender County’s population increased 39.6%. These trends have continued for over 20 years. In 2014, according to the Office of State Budget and Management data, Brunswick, New Hanover and Pender Counties ranked among the top four fastest growing counties in North Carolina. This population growth generates an array of demands, including a demand for improved transportation systems. It is met by a need identified by most successful businesses and organizations – a need to attract and retain talented employees. Even though the region is deemed by many as a desirable place to live (as seen in the population increases), there are other regions that offer more diverse employment opportunities, such as the Research Triangle Park (RTP) in the Raleigh, Durham, and Chapel Hill area. RTP is powered by three major universities and many Park companies, ensuring a steady churn of research, discovery, and innovation. Although RTP has also shown dramatic increases in population, it will never have the small city atmosphere, miles of coastal beaches, and the Cape Fear River. While these are qualities that attract potential employees to the Cape Fear Region (Brunswick, New Hanover, and Pender Counties), these primary qualities do not attract potential employers to this region making it difficult for this region to compete with the RTPs of the world. To be competitive, we must develop the infrastructure, programs, and opportunities outlined in this plan.

The purpose of this plan is to provide guidance to various Cape Fear Region businesses and organizations that answers the question: “How do we attract and retain talent through enticing opportunities to get to and from work?” This plan will provide a toolkit for employers to help determine what strategies could benefit their organization regarding attractive transportation options for employees. This plan will also provide guidance for local jurisdictions and other government agencies regarding implementation of strategies that would benefit the employers. Regardless of the specific strategies most beneficial to a particular employer, there will be an ongoing effort to actively engage public, non-profit, private sector, and community partners in the development of a TDM program that has support from our community leaders.

The development of this plan is led by the Wilmington Metropolitan Planning Organization (WMPO), the regional transportation planning agency for the lower Cape Fear Region of southeastern North Carolina. The mission of the WMPO is to develop and implement a comprehensive multi-modal transportation plan that supports the existing and future mobility needs and economic vitality of the lower Cape Fear Region. This plan will explore an array of Transportation Demand Management (TDM) strategies that could provide current and potential employees a variety of attractive transportation options (please see Appendix A for detailed information on the strategies). This is considered a short-term plan in that the TDM strategies chosen for analysis are considered applicable to the Cape Fear Region throughout the next ten years (until 2025).

These TDM strategies have been cross-referenced with seven Employee/Employer Goals that will help attract and retain employees. These goals are transportation-related factors that could attract employees to a new job in this
The first goal, mitigate the growth in traffic congestion, is directly related to the WMPO mission statement. Ten objectives have been identified to expand upon this goal. These objectives drive the performance measures in this plan (please see Appendix B). The remaining six goals are specific to employers and could potentially be developed to include objectives beyond transportation. The goals/objectives are:

- **Goal:** Mitigate the growth in traffic congestion (increase ease of commuting)
  - Objective: Prioritize accommodations of all modes over motorized vehicular travel time along corridors that have potential for heavy multimodal usage
  - Objective: Maintain or reduce travel times on congested corridors
  - Objective: Increase transit on-time performance
  - Objective: Increase vehicle occupancy rates
  - Objective: Ensure the TDM plan is considered in the MTP and other transportation plans
  - Objective: Decrease the number of people commuting during peak commuting hours (8:00 am and 5:00 pm)
  - Objective: Increase opportunities for using shared modes of transportation
  - Objective: Provide opportunities for employees to carpool, vanpool, and use transit through the development of Park & Ride lots
  - Objective: Customize and promote TDM services to employers/employees/clients/the general public based on specific needs of the targeted group
  - Objective: Increase/improve transit amenities

- **Goal:** Reduce costs to employee and employer
- **Goal:** Address the needs and desires of employees
- **Goal:** Increase opportunities for healthy living, recreation, and time outside
- **Goal:** Increase opportunities for running errands
- **Goal:** Increase opportunity for time with family
- **Goal:** Increase flexibility for the employee

Five of the fourteen TDM strategies satisfy all seven employer/employee goals: Alternative Work Schedules, Employee Transportation Coordinator, Bicycle and Pedestrian Infrastructure, Commuter Transit Routes, and Transportation Management Districts. Please see Appendix C for the strategies and goals matrix. The TDM strategies have also been prioritized into high, medium, or low priority based on four factors: ease of implementation, cost/benefit, strategy readiness, and demand/impact. The priorities for this region are as follows. Please see p. 21 for the scoring matrix.
**High Priority:**
Alternative Work Schedules
Carpool/Vanpool
Development Review
Park & Ride Lots
Full-Time TDM Coordinator
Transit Amenities
Bicycle & Pedestrian Infrastructure

**Medium Priority:**
Bicycle Sharing Program
Car Share
Commuter Transit Routes
Employer Transportation Coordinator

**Low Priority:**
Consulting Services for Telecommuting
Employer Shuttles
Transportation Management Districts

The employer toolkit identifies four employer functions:
- Campus Style
- Structured Schedule
- Multi-Building/Campus
- Unique Schedule

A ‘campus style’ employer is one who operates like a campus – lots of people coming and going, employees that work various schedules, visitors who frequent the campus, and potentially people who stay overnight for various reasons. Some examples are UNCW and New Hanover Regional Medical Center. A ‘structured schedule’ employer is one who operates on a standard 8:00 am - 5:00 pm schedule, or something similar such as 7:00 am - 4:00 pm or 9:00 am - 6:00 pm. This could also include businesses with employees working in set, predictable shifts. Some examples are City of Wilmington and New Hanover County Government. A ‘multi-building/campus’ employer is one that has many locations, rather than a single location. Some examples include New Hanover County Schools, and Wilmington Health Associates. A ‘unique schedule’ employer is one that already implements alternative work schedules, primarily telecommuting, to accommodate more employees than a typical employer. An example is PPD, Inc.

Employers who function differently could benefit from different TDM Strategies. Figure 1.1 is a table that illustrates the TDM Strategies that best apply to each employer function.
### Figure 1.1 - Employer Functions and Appropriate TDM Strategies

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<th>Unique Schedule</th>
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<tr>
<td>Transportation Management Districts</td>
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</tbody>
</table>

Note: The following strategies are not identified in this table: Development Review, Transit Amenities, Commuter Transit Routes, Full Time TDM Coordinator, and Consulting Services for Telecommuting. These strategies function primarily off-site of the employer and therefore do not specifically apply or impact one employer function over another.
Another important element in implementing TDM strategies is the development of a marketing plan. A general marketing plan will be developed for the purpose of this plan. With the development of the marketing plan, target markets and opportunities will be identified. TDM Strategy development and implementation will be planned. Performance measures will also be cross-referenced with this plan (see Appendix B) and identified as part of the marketing plan. It will include an employer and employee survey, establishing employer profiles, promoting TDM in the community through the local Chambers of Commerce and Economic Development Commissions, promoting TDM through connecting with other significant organizations in the community, and a list of the largest employers in our region. This marketing plan will be is a separate document from the TDM plan.
Introduction

The Cape Fear Region has the opportunity to complete a regional economic development and technology “triangle” between the technology powerhouse of the Research Triangle Park (RTP) and Charlotte’s vast banking industry. Raleigh/Durham/Chapel Hill and Charlotte are consistently ranked in the top places in the U.S. for job opportunity. Richard Florida, American urban studies theorist, ranks Raleigh #9 and Charlotte #19 in The 20 Best Places for Jobs Requiring Post-Secondary Education. Florida’s theory asserts that metropolitan regions with high concentrations of knowledge sector workers (entrepreneurs, scientists, tech workers, nurses, teachers, etc.) exhibit a higher level of economic development. The development of the Cape Fear Region’s knowledge sector economy to promote economic development and ensure the prosperity of the region would be a strong step towards developing this “triangle” and our ability to compete with and complement Raleigh and Charlotte’s industries. In an effort to attract and retain the right talent, existing assets could be leveraged to build a community where knowledge sector workers would want to live. The knowledge sector will continue to be the fuel for economic growth through their development of new businesses, business models, and technological innovation. If the Cape Fear Region is going to attract the next generation workforce and the businesses that employ them, there needs to be enticing and diverse transportation options to accommodate them. The purpose of this plan is to identify how this region can attract and retain this talent through enticing opportunities to get to and from work. First, we must identify what these enticing transportation opportunities are.

National Profile

During the past 60 years of consistent suburban growth in the United States, traffic congestion has played an increasingly greater role in people’s daily lives, compounding the stress of the commute and time away from home. To ease these concerns, we attempted to build our way out of perpetual gridlock. Infrastructure projects have traditionally focused on increasing capacity. And now, after decades of steady growth, studies show that vehicle miles traveled per capita peaked in 2004. We are now seeing a shift in societal behaviors and increased demand for sustainable transportation options. A few facts to consider:

- The rate of suburban population growth has outpaced that of urban centers in every decade since the invention of the automobile, but in 2011, for the first time in 100 years, that trend reversed
- During nearly every recession in history, urban home prices have suffered the most, but in this latest downturn, real estate in the urban cores predominately retained its value at a higher percentage than surrounding suburbs
- In 1990, 7% of building permits in New York City were in the urban center and 70% were on the suburban fringe; in 2008, 9% of the building permits were in the suburban fringe and 70% were in the urban core
- In 1980, 66% of 17 year olds had a driver’s license; in 2010, that was reduced to 47% (1)

A survey released from The Rockefeller Foundation and Transportation for America finds that the majority of Millennials (born early 1980s- early 2000’s) want to be less reliant on cars. It found that Millennials want low cost transit and multiple
transportation options for getting around a city. More than half of respondents said they would consider moving to another city if it had better access to public transportation, and 66% listed high quality transportation as a top factor in deciding where to live. Almost half (46%) of current Millennial vehicle owners surveyed agreed they would seriously consider giving up their car if they could count on a range of transportation options. “Young people are the key to advancing innovation and economic competitiveness in our urban areas, and this survey reinforces that cities that don’t invest in effective transportation options stand to lose out in the long-run,” says Michael Myers, a managing director at The Rockefeller Foundation. “As we move from a car-centric model of mobility to a nation that embraces more equitable and sustainable transportation options, Millennials are leading the way.” (2)

Another shared perception of Millennials: Cars are a hassle. In 2008, only 31% of 16-year-olds and 77% of 19-year-olds in the United States had a driver’s license — numbers dramatically lower than the 1978 numbers of 50% and 92%, respectively, according to the U.S. Department of Transportation. In 2011, the percentage of 16-24 year olds with a driver’s license was the lowest since 1963. Even as Millennials age, they’re driving less than prior generations. In 1995, 20.8% of autos were driven by 21-30-year-olds, according to the Federal Highway Administration’s 2010 Household Travel Survey. By 2009, that number had dropped to 13.7%. (3) Automobile companies are working harder to attract potential drivers in their late teens and early 20’s. The New York Times reported that General Motors has hired MTV’s marketing arm to help combat the Millennials’ lack of interest in cars.

According to a 2011 survey by the National Association of Realtors, 59% of respondents would choose a smaller home and lot if it gave them a commute time under 20 minutes. 66% of respondents see an easy walk from places in their community as an important factor in deciding where to live. The survey shows that single-family homes are still popular, but a significant share of people want attached housing options.

Regional Profile

Survey Results

In 2013, Wilmington Metropolitan Planning Organization (WMPO) Staff released a survey to determine the public’s needs and desires regarding transportation in the Cape Fear Region. Over 4,100 individual responses were received. Some of the highlights from the survey results are:

To get to work and school
- 55% of respondents would prefer to bicycle more often
- 46% of respondents would prefer to take public transportation more often
- 44% of respondents would prefer to walk more often

To run errands
- 61% of respondents would prefer to bicycle more often
- 55% of respondents would prefer to walk more often
- 43% of respondents would prefer to take public transportation more often
As noted in the survey results, the regional transportation preferences are in line with the national transportation preferences. Regional data has not been released regarding the number of young adults with drivers’ licenses, however the survey results show that respondents desire to be less reliant on cars and want multiple options for getting around.

Geographic Profile

The WMPO Planning Area is 494 square miles which includes New Hanover County and portions of Brunswick and Pender County. It serves a population of 253,738. The geography contains miles of coastal beaches, the Cape Fear River, and several of its tributary creeks and streams. The development of the transportation network has been both driven and constrained by the geography of the region. The geography of the region - shaped by the location of its ocean, rivers, creeks, and wetlands - has constrained where and how the transportation network can develop; the history and economic climate in the region is largely driven by its proximity and relationship to these water bodies.

The WMPO planning area contains one of two major North Carolina Ports (the Port of Wilmington) which is supported by a rail network as well as a network of arterials, expressways, and interstates. The geography of the area also drives the economic development of the region as a recreation tourism destination and as a retirement community. The region’s oceanfront beaches and rivers, creeks and streams invite tourism and recreational exploration.

Demographic Profile

Population

The 2010 population within the WMPO was 253,738. It is projected to be 365,927 by 2040 (4). This yields a population increase of 44% in 30 years, or an average of 1.47% per year. According to Census data, the U.S. is currently growing at about 0.90% per year.
As seen in Figure 2.1, the Brunswick County portion of the WMPO is expected to see the highest population increases. Pender County is also expected to see high population increases. Wilmington should expect to see moderate population increases. The beach communities (Wrightsville Beach, Carolina Beach, and Kure Beach) should expect to see smaller population increases in comparison to the other WMPO jurisdictions, respectively. Of the three counties in the Cape Fear Region (Brunswick, New Hanover, and Pender), New Hanover County is considered the most built out. It is the most densely populated and also the smallest in geographical area. This factor also drives the projected population growths.
Employment

In 2010 there were 109,323 jobs in the WMPO. The region is expected to add approximately 40,000 more jobs by 2040 (4). This is an increase of approximately 37% in 30 years, or an average of 1.2% per year.

Figure 2.2 illustrates the projected employment growth in the WMPO region 2010 - 2040.

As seen in Figure 2.2, the Brunswick County and northern New Hanover County portions of the WMPO are expected to see the highest employment growth. Coastal Pender, Wilmington, and southern New Hanover County are expected to see some employment growth. The beach communities (Wrightsville Beach, Carolina Beach, and Kure Beach) should expect to see less employment growth in comparison to other WMPO jurisdictions, respectively.
The following Service Area Profile Maps illustrate the regional attributes and transportation facilities. Figure 2.3 illustrates the key locations regional residents are likely to be traveling to and from. This map includes colleges/universities such as UNCW and community colleges, cultural centers and tourist destinations such as museums, medical centers, and major employment centers. As you can see, a majority of these regional attributes are located within the central portion of New Hanover County.

Figure 2.3 represents the Service Area Profile Map for the WMPO region, highlighting regional attributes.
Figure 2.4 illustrates the primary transportation facilities regional residents are likely to use. This map includes the major roadways, Wave Transit bus routes, Wave bus stops, bicycle facilities, and sidewalks.

Figure 2.4 represents the Service Area Profile Map for the WMPO region, highlighting transportation facilities.
As illustrated in the Service Area Profile Maps, a very small portion of the road network follows a grid pattern where streets run at right angles to each other forming a grid. Instead, major roadways are used to move traffic while a grid pattern would better distribute traffic across the region and provide grid-style interconnectivity. This non-grid development increasingly relies on a few primary routes and precludes the utilization of alternative routes when incidents or other types of congestion occur. Therefore, the major regional travel corridors also serve as a major obstacle to travel when they become congested. NC132/US117/US421 (College Road) serves as the only major continuous north-south corridor in New Hanover County. US 17, US 421, NC 133/US 117 and I-40 carry the majority of the traffic on the unincorporated Pender County area inside the WMPO’s Planning Area. US 74/76 and US 17 and a few other collectors/arterials serve the Brunswick County portion of the WMPO Planning Area. As it may appear Brunswick County has few traffic-carrying collectors/arterials, this is not, however, Brunswick County’s greatest challenge. There are only two bridges connecting Brunswick County to New Hanover County. Although there is minimal transportation connectivity between Brunswick and New Hanover Counties, these two counties are very closely tied in terms of economic and community activities. According to the American Community Survey, about 10,000 residents commute daily from Brunswick County to New Hanover County. The Cape Fear Memorial Bridge and the Isabelle Holmes Bridge allow tens of thousands of people to access their jobs in New Hanover County daily. They also provide access to medical facilities and shopping, and access for tourists from the west. About 9,000 commute daily from Pender County to New Hanover County. These commuters typically follow US 17, US 421, NC 133/US 117 and I-40 to access their jobs in New Hanover County. Most tourists follow I-40 into New Hanover County.

Congestion Management

The WMPO was recognized by the Federal Highways Administration (FHWA) on July 18, 2012 as a Transportation Management Area (TMA). As a newly designated TMA, the WMPO is required to initiate and maintain a Congestion Management Process (CMP). A CMP, developed by the WMPO, is an on-going data collection and evaluation process that identifies congested corridors, determines the cause of congestion, ranks the most congested segments, and develops transportation strategies to mitigate the growth in traffic congestion while enhancing safety and multi-modal mobility region-wide. In developing a TDM plan, it is important to identify issues for commuters on the transportation network. By developing a CMP, the WMPO can identify where TDM efforts need to be focused.

The WMPO adopted two types of CMP corridors: Primary Network and Watch List corridors. Primary Network corridors require immediate monitoring through data collection and systems analysis. Watch List corridors are important for the WMPO to do cursory examinations because they either play an important role in relieving congestion on congested corridors or it is anticipated that they may see congestion in the near future.
Figure 2.5 illustrates the primary network and watch list corridors in the WMPO’s Congestion Management Process.

As illustrated in Figure 2.5, primary network corridors are also the primary connections from Brunswick County, Pender County, and Pleasure Island (Carolina Beach, Kure Beach) to New Hanover County/City of Wilmington where most of the current jobs are concentrated.

The WMPO’s corridors are congested for different reasons, by different users, and adjacent to different land uses. Therefore, the CMP defines and applies five functional types to identify how congested corridors are currently being used, what performance measures should be used to evaluate them, and what solutions are best targeted for each corridor type. Please see Appendix D for maps illustrating the five functional types. The five functional types of corridors are:
• Commercial Corridors - Volume along corridor sees multiple commercial/errand trips with trips generated by destinations along corridor
• Commuting Corridors - Volume seeking to pass through corridor from an origin outside corridor to a destination outside corridor
• Destination Corridor - Volume along corridor consists of trips generated by major destinations along corridor
• Freight Corridor - Large volume of truck/freight traffic looking to travel along corridor
• Tourist Routes - Volume seeking to pass through corridor from an origin outside corridor to a destination for the purpose of tourism. Volume has a higher percentage of users who are unfamiliar with the transportation network.

The CMP Network will be monitored in part by multiple partner agencies to include the City of Wilmington Traffic Engineering Division, NCDOT, the Cape Fear Public Transportation Authority, and the WMPO. A report will be created every other year to evaluate the CMP corridors based on this data collected from multiple partner agencies. Eight data collection techniques have been identified: traffic counts, travel time data, hot spot identification, TEAAS data, truck counts, bicycle counts, pedestrian counts, and transit data. Seven data collection techniques specifically target the three corridors types (commercial, commuting, and destination) that most specifically apply to the TDM Plan: traffic counts, travel time data, hot spot identification, TEAAS data, bicycle counts, pedestrian counts, and transit data. Baseline data collection began in 2014 and is expected to be ongoing. This data will be used to evaluate the congestion along the commercial, commuting, and destination corridors and will also be used as performance measures in this TDM Plan. Additional performance measures for the purpose of this plan have been identified. A complete listing of the performance measures can be found in Appendix B.
Process

The first step in our process was to convene a TDM Committee. WMPO staff have taken the lead on the development of the TDM short-range plan. Through previous partnerships and new connections, a TDM Committee was developed with representatives from the Town of Leland, New Hanover Regional Medical Center, UNCW, Pender County, FOCUS, New Hanover County, New Hanover County Schools, PPD, Inc., NCDOT, Wave Transit, and Cape Fear Community College. Please see acknowledgements on page 2.

To determine how to attract and retain talent through enticing opportunities to get to and from work, the TDM Committee followed a process. A broad list of 23 TDM strategies were identified. The 23 strategies were evaluated to determine if they were applicable to the Cape Fear Region in the next 25 years. If the strategy was not applicable, it was discarded. Two strategies were removed. The Parking Management and Transit Planning strategies were removed as single strategies and infiltrated through the other TDM strategies. Then, the committee went through each of the 21 strategies to determine if they were applicable in the next 10 years, or the next 10-25 years. The strategies that are applicable in the next 10 years moved forward in this short-range TDM plan and will also serve as recommendations in Cape Fear Transportation 2040, the WMPO’s long-range transportation plan update also known as the Metropolitan Transportation Plan (MTP). The strategies that are applicable in the next 10-25 years will be detailed in Cape Fear Transportation 2040 only.

Of the 23 strategies, the committee identified 14 strategies that are applicable to the Cape Fear Region in the next 10 years. These strategies are detailed in Appendix A. The committee cross-referenced these strategies with the employee/employer goals to attract and retain employees. This ensures the strategies would be applicable to attract and retain talent through enticing opportunities to get to and from work. Using four indicators (ease of implementation, cost/benefit, initiative already started, and demand/impact) the 14 TDM Strategies were prioritized using a point system with a maximum of 12 points. This process resulted in seven high-priority strategies, four medium-priority strategies, and three low-priority strategies.

In this plan it is beneficial to provide employers direction regarding which TDM Strategy(s) would best suit their company/organization. In an effort to develop this toolkit, four employer functions were identified:

- **Campus Style** - one that operates like a campus - lots of people coming and going, employees that work various schedules, visitors who frequent the campus, and potentially people who stay overnight for various reasons. Some examples are UNCW and New Hanover Regional Medical Center
- **Structured Schedule** - one that operates on a standard 8:00 am - 5:00 pm schedule, or something similar such as 7:00 am - 4:00 pm or 9:00 am - 6:00 pm. This could also include businesses with set, predictable shifts. Some examples are City of Wilmington and New Hanover County Government
- **Multi-Building/Campus** - one that has many locations, not one centralized location. Some examples include New Hanover County Schools, and Wilmington Health Associates
• Unique Schedule - one that already implements alternative work schedules, primarily telecommuting, with more employees than a typical employer. An example is PPD, Inc.

Understanding that employers who function differently could benefit from different strategies, the employer functions were cross-referenced with the priority list. This allows an employer who, for example, functions in a campus-style to easily identify the high-priority TDM Strategies that would be most applicable to them.

Figure 3.1 depicts the process for the development of this plan.
Implementation

TDM Strategy Prioritization

To determine the best strategy for implementing this plan, the 14 TDM Strategies were placed in high, medium, and low priority. Each TDM Strategy was scored by the TDM Committee based on four factors:

- Ease of implementation - requires minimum coordination and no major infrastructure additions (or funding is secured); 1 = difficult, 3 = easy
- Cost/Benefit - compares perceived costs to perceived benefits; 1 = high cost and low benefit, 3 = low cost and high benefit
- Initiative already in place - efforts already in place and/or preliminary work already completed; 1 = no work done, 3 = already in place
- Demand/Impact - references made in survey responses, comments, conversations, etc.; 1 = unknown community desire/impact, 3 = known community desire/impact

The results of the TDM Strategy prioritization activity are listed in the next table, categorized into high, medium, and low priority.
Figure 4.1 illustrates the high, medium, and low priority TDM Strategies.

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<th>Strategy</th>
<th>Ease of Implementation</th>
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<td>3</td>
<td>10</td>
<td>HIGH</td>
</tr>
<tr>
<td>Car Share</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>Employer Transportation Coordinator</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>Commuter Transit Routes</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>Bike Share Program</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>Consulting Services for Telecommuting</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>LOW</td>
</tr>
<tr>
<td>Employer Shuttles</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>LOW</td>
</tr>
<tr>
<td>Transportation Management Districts</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>LOW</td>
</tr>
</tbody>
</table>

High: 10-12 pts  
Medium: 7-9 pts  
Low: 0-6 pts
Entity Responsible for Implementation

However, implementation is not as simple as starting with the strategy with the highest priority score and working down the list. The success of a TDM program relies on partnerships, coordination, and communication between a variety of entities. The TDM Strategies require coordination between a variety of organizations for implementation. Some of these organizations take on a primary lead; others take on a secondary or promotional role. Please see the table below indicating the organizations responsible (regardless of the capacity) for implementing the 14 TDM Strategies. The organizations responsible for implementation have been identified and cross-referenced with the TDM Strategy list. This creates a quick reference for all entities responsible for implementation.

The TDM Committee has identified the following entities, who are also subject matter experts, as crucial to the success of this TDM plan and implementing the TDM Strategies as outlined in Appendix A:

<table>
<thead>
<tr>
<th>TDM Coordinator</th>
<th>Regional Employers</th>
<th>Wave Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCDOT</td>
<td>Local Jurisdictions</td>
<td>WMPO Staff</td>
</tr>
<tr>
<td>Vendors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 4.2 illustrates the entities responsible for implementation.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>TDM Coordinator</th>
<th>Regional Employers</th>
<th>Wave Transit</th>
<th>NCDOT</th>
<th>Local Jurisdictions</th>
<th>WMPO Staff</th>
<th>Vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative Work Schedule</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development Review</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Time TDM Staff</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Park &amp; Ride Lots</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transit Amenities</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpool/ Vanpool</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bike/Ped Infrastructure</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Car Share</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Employer Transportation Coordinator</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commuter Transit Routes</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Bike Share Program</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Consulting Services for Telecommuting</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employer Shuttles</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation Management Districts</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Responsibilities

TDM Coordinator Responsibilities

As illustrated in Figure 4.2, the TDM Coordinator is responsible (in some capacity) for the implementation of all 14 TDM Strategies. Please note that the TDM Coordinator identified is the Full-Time TDM Coordinator strategy. The TDM Coordinator’s responsibilities can be further described as primary, secondary, and initiating responsibilities. Primary responsibilities are those that depend heavily on the TDM Coordinator for implementation. Secondary responsibilities are those that occur without the assistance of the TDM Coordinator, but would benefit greatly from the involvement of the TDM Coordinator. Initiating responsibilities are those that call for the TDM Coordinator to begin conversations, but the implementation and maintenance of the strategy primarily depends upon a separate entity.

Primary Responsibilities for Implementation
- Alternative Work Schedules
- Carpool/Vanpool
- Full-Time TDM Coordinator
- Park & Ride Lots
- Transportation Management Districts

Secondary Responsibilities for Implementation
- Bicycle Sharing Program
- Car Share Program
- Development Review
- Employer Transportation Coordinator
- Bicycle and Pedestrian Infrastructure
- Transit Amenities
- Commuter Transit Routes
- Employer Shuttles

Responsible for Initiating the Strategy
- Consulting Services for Telecommuting Opportunities

Employer Responsibilities

Further detail regarding regional employers was needed, as some TDM Strategies may benefit some employers, but not all. Four employer functions were identified: Campus Style, Structured Schedule, Multi-Building/Campus, and Unique Schedule. Please see page 5 for descriptions.
Figure 4.3 cross-references the prioritized TDM Strategies with the four employer functions

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Priority</th>
<th>Campus Style</th>
<th>Structured Schedule</th>
<th>Multi-Building/ Campus</th>
<th>Unique Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative Work Schedule</td>
<td>HIGH</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Development Review</td>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Time TDM Staff</td>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park &amp; Ride Lots</td>
<td>HIGH</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Transit Amenities</td>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpool/ Vanpool</td>
<td>HIGH</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Bike/Ped Infrastructure</td>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car Share</td>
<td>MEDIUM</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Employer Transportation Coordinator</td>
<td>MEDIUM</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Commuter Transit Routes</td>
<td>MEDIUM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bike Share Program</td>
<td>MEDIUM</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consulting Services for Telecommuting</td>
<td>LOW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employer Shuttles</td>
<td>LOW</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Transportation Management Districts</td>
<td>LOW</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Note: If the TDM Strategy is not marked as a Campus Style, Structured Schedule, Multi-Building/Multi-Campus, or Unique Schedule then implementation of the strategy is not the responsibility of the employer. Rather, it is the responsibility of the TDM Coordinator, Wave Transit, NCDOT, Local Jurisdictions, WMPO Staff, or Vendors.
Wave Transit Responsibilities
- Carpool/Vanpool
- Employer Shuttles
- Park & Ride Lots
- Transit Amenities
- Commuter Transit Routes

NCDOT Responsibilities
- Consulting Services for Telecommuting Opportunities
- Development Review
- Bicycle & Pedestrian Infrastructure

Local Jurisdictions Responsibilities
- Development Review
- Bicycle and Pedestrian Infrastructure
- Transportation Management Districts

WMPO Staff Responsibilities
- Development Review
- Bicycle & Pedestrian Infrastructure
- Full Time TDM Staff

Vendors
- Bicycle Sharing Program
- Car Share

Implementation Approach

As illustrated in Figure 4.2, the TDM Coordinator is responsible for implementing all 14 of the TDM Strategies. Currently, the WMPO has approximately ½ of 1 full-time employee (FTE) dedicated to promoting and implementing TDM strategies. The degree to which this plan can be implemented depends greatly on the amount of staff time allocated to the TDM Coordinator for implementation of this plan. There are two options and two approaches for implementation. These options and approaches can be expanded and hybrid alternatives can be generated. For simplicity, the basic options and approaches are:

Option 1) Limited Staff Time (1/2 FTE)
This option functions on limited staff time dedicated towards implementing this plan. Approximately ½ of 1 full time employee, the TDM Coordinator, would be allotted towards implementation. Two approaches can be taken:
- **Strategy-based approach** - the TDM Coordinator would implement 1-3 primary TDM Strategies per year in the Cape Fear Region. Understanding that the TDM Strategies don’t need to be implemented exclusively of each other, 1-3 primary strategies should be selected with ideas for how to gauge interest in future, complementary strategies. For example, if the TDM Coordinator decides to focus on Bicycle and Pedestrian Infrastructure, they can gauge interest in the
Bike Share market and educate the community and employers about bike share opportunities if they choose to pursue them.

- **Employer-based approach** - the TDM Coordinator would take on 1-3 employers per year as ‘clients’, assisting them with an employer-specific approach towards implementing various TDM strategies. Conversations could begin with identifying the employer function, then following Figure 4.3 to determine which TDM Strategies would best suit that specific employer.

Option 2) Full Staff Time (1 FTE)

This option functions on full staff time dedicated towards implementing this plan. One full time employee, the TDM Coordinator, would be responsible for implementing this plan. Two approaches can be taken:

- **Strategy-based approach** - the TDM Coordinator would implement 3-5 primary TDM Strategies per year in the Cape Fear Region. As with the limited staff time option, complementary strategies should be explored where appropriate.
- **Employer-based approach** - the TDM Coordinator would take on 3-5 employers per year as ‘clients’, assisting them with an employer-specific approach towards implementing various TDM strategies. As with the limited staff time option, Figure 4.3 could be used to begin these conversations.

Regardless of option and approach, a community-based approach should be taken to accommodate the needs of specific communities and their construction impacts, community-specific demands, and special events. For example, a targeted approach should be taken with Brunswick County, Leland, Belville, and Navassa while the Causeway bridge between Brunswick and New Hanover Counties is under construction. This construction project will cause extensive traffic delays that will continue throughout the duration of this project, approximately 2-3 years. By establishing Park & Ride lots and promoting carpool/vanpool opportunities and alternative work schedules the traffic delays could be mitigated. The TDM Coordinator should work specifically with those entities to help promote TDM strategies that could help with the specific construction project.

Certain communities have specific needs, demands, and special events. The beach communities see their heaviest tourism traffic during the summer holiday weekends. If it is feasible and warranted to run a trolley from the parking lots further inland to beach accesses then this opportunity should be explored. The TDM Coordinator should work specifically with those communities, Wave Transit, and parking lot owners to determine a solution to the heavy tourism traffic. This same idea applies to the special events in the region such as Azalea Festival and Riverfest in Wilmington. The TDM Coordinator should coordinate with event planners and transportation companies to determine a solution to the heavy event traffic.

The TDM Marketing Plan should guide the promotion of the efforts listed in this plan. The plan should be developed by the TDM Committee immediately upon adoption of this TDM plan. It should acknowledge the variety of marketing strategies required to implement the TDM Strategies. For example, a strategy-based approach would call for region-wide promotion of the carpool/vanpool ride matching system,
Share the Ride NC. An employer-based approach would focus specifically on promoting the ride matching system only to those employees. However, the Carpool/Vanpool TDM Strategy would be more successful with more profiles in the Share the Ride NC ride match system, as people who live in the same neighborhood can carpool to neighboring employers. Therefore, the TDM Marketing Plan should provide flexibility in the marketing strategies to yield the highest success in the TDM Strategies.
Conclusion

First Steps

The first step towards implementation of this plan is its adoption by the WMPO Transportation Advisory Board. Upon adoption, this plan should be presented to all WMPO member jurisdictions to gain their support and awareness of this initiative.

To implement this plan, three steps should be taken to start the process:

- Develop the TDM Marketing Plan
- Review the TDM Strategies that are considered high priority
- Work with regional employers who helped develop this plan.

The TDM Marketing Plan should be developed by the TDM Committee to include a comprehensive effort to implement and promote the specific TDM Strategies to the residents and employers in the Cape Fear Region. Marketing and outreach are crucial components to the success of this plan. Therefore, the development of the marking plan should be a priority of the TDM Committee.

Employer Toolkit

This plan creates an employer toolkit that allows employers to determine what TDM Strategy(s) could best suit their organization. This toolkit could be used for existing employers, or as a guide for potential employers. For example, an employer that functions (or would plan to function) in a campus style atmosphere (such as colleges/universities and medical centers) can see there are several TDM Strategies that are most applicable to the campus style environment. For information about each of these strategies, the employer can review the strategy descriptions in Appendix A to gain a better understanding. With assistance from the TDM Coordinator, the employer can review the priority levels of the TDM strategies, and then determine what strategies would best suit that employer and where priorities for that employer should be placed.

TDM Coordinator

This plan provides guidance for implementation for the TDM Coordinator. Two decisions should be made to determine how the TDM Coordinator should implement this plan - where to house the TDM Coordinator and how much time will be spent implementing this plan and performing TDM responsibilities. Conversations should be had to determine the best entity to house the TDM Coordinator. This could be any entity that serves the region and has mission statements and goals that complement the goals and objectives of this plan. The TDM Coordinator should be housed with an entity that has the resources that will most likely ensure success. To determine the best organization to house the TDM Coordinator, an inventory of options should be conducted, followed by formal conversations with leaders within those organizations. Each organization should develop a SWOT (strengths, weaknesses, opportunities, and threats) analysis for housing the TDM Coordinator within their respective organization.
After discussing each organization’s SWOT analysis, the leaders of each organization should come to an agreement regarding the placement of the TDM Coordinator then expand to determine how the other organizations can be supporting organizations of the TDM program.

Currently, less than one half of one full time employee (FTE) is dedicated to implementing TDM strategies. This plan outlines two non-exclusive options and approaches for implementation. If there continues to be one half of one FTE allocated towards TDM implementation, that TDM Coordinator can follow a strategy-based approach and strive to implement 1-3 TDM strategies per year. The TDM Coordinator can follow an employer-based approach and strive to take on 1-3 employers/year as ‘clients’ and specifically assist them with TDM strategies that best fit their organizational needs. If one FTE is allocated towards TDM implementation, that TDM Coordinator could strive to implement 3-5 TDM strategies per year. The employer-based approach would allow one FTE to take on 3-5 employers per year as ‘clients’.

An inventory of current TDM responsibilities should be conducted. If there are staff that are currently working to implement TDM strategies in any capacity, those staff should coordinate with the TDM Coordinator. While ensuring that responsibilities fall where the expertise is, if it is more efficient to give those responsibilities to the TDM Coordinator and house all TDM responsibilities within one position, then this option should be explored. For example, it could be more efficient for the TDM Coordinator to participate in the development review process (a TDM strategy identified in this plan) and that would allow the current development review staff person to take on additional responsibilities.

The option of additional TDM staff should be explored. The implementation of this plan requires significant marketing and outreach, along with maintenance and logistical management. One TDM Coordinator could take on the responsibilities of marketing and outreach, while another could take on the maintenance and management responsibilities.

Work Plan

A work plan has been designed to guide implementation of the TDM strategies. Appendix E includes a work plan for each of the 14 TDM Strategies. It consists of a list of non-inclusive tasks that should be followed to ensure implementation of the TDM Strategies. Regardless of whether the TDM Coordinator is one half of one FTE dedicated to implementing TDM strategies, the work plan can be used to target specific TDM Strategies and provides specific tasks to be completed. The work plan outlines goals for completion over the next five years. This work plan should be reviewed annually to review current statuses and provide any additional input.
Performance Measures

In an effort to monitor the success and impact of the TDM program, performance measures have been developed and are listed below. Details regarding objectives, data collection method, data collection agency, and TDM Strategy can be found in Appendix B.

Congestion Management Process Goals and Objectives

- Bicycle and pedestrian CMP corridor counts per capita in the WMPO area within a two year time frame
- Average travel time on the WMPO CMP network within a two year time frame
- Percentage of fixed-route trips that are on-time in the WMPO area within a two year time frame
- Number of participants in the WMPO's TDM program
- Percentage of WMPO adopted plans the TDM is referenced over a two-year period

Employer/Employee Goals and Objectives

- Number of employees participating in an alternative work schedule program
- Number of employers participating in an alternative work schedule program
- Number of businesses that apply for telecommuting assistance
- Number of businesses participating in telecommuting where telecommuting assistance was provided
- Number of businesses who adopt a telecommuting/alternative work schedule policy
- Number of bike share programs
- Number of daily, weekly, and monthly bike share rentals
- Number of monthly and annual bike share pass purchases
- Revenue generated from bike share rentals
- Number of car share programs
- Number of people registering (pre-qualifying) for car share
- Number of car share rentals per day
- Revenue generated from car share rentals
- Number of people enrolled in Share the Ride NC
- Number of vanpools running
- Number of people participating in each vanpool
- Number of Park & Ride Lots
- Number of cars parked at Park & Ride Lots
- Number of code changes updated to complement TDM Strategies
- Number of employer shuttles providing access to Park & Ride lots
- Number of employer shuttles in service
- Number of PSA's developed
- Number of TDM presentations given
- Number of employers participating in TDM program
- Number of events where TDM is promoted
- Number of bicycling events held
- Number of visits to website
- Number of employer transportation coordinators
- Staff time allocated to TDM Strategies
- Number of awards/amount of financial incentives for ride sharing, walking, biking, and use of transit
- Number of Full Time Employees (FTEs) dedicated to promoting TDM initiatives
- Number of people using the app that will provide bus rider information
- Number of people participating in Wave Transit’s Bus Buddies program
- Number of people using transit
- Number of TMDs established
- Number of businesses participating in a TMD
- Number of housing developments participating in a TMD

Note: The geographical area for measuring/counting facilities is within the WMPO boundary

Program Evaluation

This TDM plan, its strategies, work plan, and performance measures should be evaluated annually. Whether a strategy-based approach or an employer-based approach is taken, specific performance measures should be identified as targets for the next year. The work plan should also be referenced to identify specific tasks that can be implemented over the next year. The marketing plan should also be reviewed. Once these three documents have been reviewed, a one-year guide should be developed with specific goals, objectives, strategies, and performance measures. At the end of each quarter, this document should be reviewed to determine the success and effectiveness of the TDM program.

Funding

This TDM plan includes a wide variety of components amenities to be funded, ranging from staff (salary and benefits) to facilities (such as bus stops, multi-use paths, and crosswalks) to marketing (events, outreach materials) to ride matching programs (Share the Ride NC). With such a wide variety of amenities, there is also a wide variety of funding sources and opportunities. Appendix F includes a non-comprehensive list of funding opportunities. Conversations should also be held with regional employers to identify additional funding sources and to develop partnerships to secure additional funding.
Appendix A - TDM Strategies

34 Full Time TDM Coordinator
37 Alternative Work Schedules
40 Bicycle Sharing Program
43 Car Share
46 Carpool/Vanpool
49 Consulting Services for Telecommuting
51 Development Review
53 Employer Shuttles
55 Employee Transportation Coordinator
57 Bicycle and Pedestrian Infrastructure
60 Park & Ride Lots
63 Transit Amenities
65 Commuter Transit Routes
67 Transportation Management Districts
TDM Strategy 1 - Full Time TDM Staff

Description: Full time TDM staff would be responsible for a wide variety of TDM responsibilities to implement this plan, including:

- Establish a marketing/outreach plan
- Public outreach - promote TDM efforts using multiple medias
- Employer outreach - conduct outreach to educate area employers on transportation options, TDM initiatives, costs/benefits, etc
- Work with employers for Best Workplace for Commuters designation
- Coordinate events such as Bike to Work Week and annual bicycle events to promote transportation on bicycle facilities, attend public events to promote transit, carpool, vanpool, bicycle and pedestrian, and transit options
- Establish public-private and intergovernmental partnerships to promote TDM programs
- Maintenance, operations and outreach for carpooling and vanpooling
- Market research - identify preferences of a target population before launching a product or program or to identify the performance/satisfaction with a particular product/programs once it has been implemented
- Partnerships with public school systems, UNCW, and CFCC
- Implementing TDM strategies based on adopted priorities
- Secure TDM program funding

Entity Responsible for Implementation: WMPO Staff, TDM Coordinator

Intent and Purpose: The intent of the Full Time TDM Staff TDM Strategy is to dedicate staff time to implement the strategies recommended in this plan. All of these strategies require coordination between multiple parties, and most strategies require education, outreach, and promotional efforts. Along with the development of a marketing plan, the full time TDM Coordinator would implement these TDM strategies on a regional level. The full time TDM staff person could be housed in one of several regional entities such as the WMPO, Wave Transit, or the Cape Fear Council of Governments.

The Full Time TDM Staff strategy could reduce traffic along the WMPO Congestion Management Commuting Corridors (see Appendix D), in proximity of participating major employers, and along corridors impacted by bicycle, pedestrian, and transit infrastructure.

Existing Conditions: Currently, one WMPO staff person takes the lead on TDM planning. About 50% of their time has been allocated to TDM strategies and planning, primarily in the form of bicycle and pedestrian planning and promoting bicycle and pedestrian facilities through community events. Wave Transit has been successful in establishing and implementing a vanpool program. There are currently two vanpools running and they have purchased...
an additional four vanpools that will be available to interested employees/employers. To date, little or no TDM strategies have been implemented otherwise.

**Potential for Application:** Cape Fear Commutes 2035 identifies a TDM Coordinator as a high priority, as it is the first requirement towards a successful TDM program. To implement TDM strategies further, the WMPO should start conversations with other regional entities to determine the best organization to house the TDM Coordinator. If the WMPO continues to be the most suitable organization, it should be determined if an existing staff person would transition to a full time TDM Coordinator, or if a new staff person would be hired. If a new person would be hired, funding for their salary, benefits, and additional funds for education, outreach, and promotional efforts would need to be secured.

**Costs:** The cost for a full time TDM Coordinator would include salary, benefits, and funding for education, outreach and promotional efforts. An estimate would be $75,000 annually ($50,000 for salary, $15,000 for benefits, and $10,000 for education/outreach/promotional costs).

**Benefits:**
- Increases the number of people and organizations implementing TDM strategies
- Mitigates growth in traffic congestion
- Implementation of the TDM strategies
- Education, outreach, and promotion of TDM in the community and to employers
- Coordination and communication among partners

**Disadvantages/Challenges:**
- Securing funding for the TDM staff person could be difficult

**Performance Measures:**

*Congestion Management Process Matrix:*
- Percentage of WMPO adopted plans the TDM is referenced over a two-year period

*Other:*
- Annual inventory of:
  - Number of PSA’s developed by TDM Coordinator
  - Number of TDM presentations given by TDM Coordinator
  - Number of employers participating in TDM program
  - Number of events with TDM promotion
  - Number of visits to Share the Ride NC website
  - Number of awards/financial incentive programs for ride sharing, walking, biking and using transit
- Number of FTE’s dedicated to promoting TDM initiatives
**Strategy Implementation:** Strategies to fund the TDM Coordinator position should be discussed with NC DOT, WMPO, and other local jurisdictions. Other options for funding this position should be reviewed along with WMPO staff responsibilities to best determine who should be the TDM Coordinator and if existing WMPO staff responsibilities need to be shifted to accommodate accordingly.

**Priority:** The Full Time TDM Coordinator TDM Strategy is a high priority. Securing funding or finding available staff time could be difficult. There has been high political demand for implementing TDM strategies, but little demand from the local business perspective. However, a full-time TDM Coordinator is crucial to implement this plan.

**Employer/Employee Goals:** The Full Time TDM Coordinator TDM Strategy targets three Employer/Employee Goals: mitigate growth in traffic congestion; reduces cost to the employee and/or employer; and address the needs and desires of employees.
TDM Strategy 2 - Alternative Work Schedules

Description: Alternative Work Schedules include a variety of work scheduling options including telecommuting, flextime, compressed work week, and staggered shifts.

- Telecommuting is a work-from-home option. This would require obtaining all the technological equipment required to perform work duties from the home of the employee.
- Flextime allows employees some flexibility in their daily work schedules. This would follow a 5-day work week but would allow employees to work 7:00 - 4:00 or 9:00 - 6:00 rather than a typical 8:00 - 5:00 schedule.
- Compressed work week allows employees to work fewer but longer days. Common examples are a 4 x 10 schedule (working four 10 hour days and having the 5th day off) or a 9 x 9 schedule (working nine 9 hour days and having the 10th day off) compared to a 5 x 8 schedule (working five 8 hour days).
- Staggered shifts reduce the number of employees arriving and leaving a worksite at one time by staggering the work schedule. For example, some shifts may be from 7:00 - 4:00, others 8:00 - 5:00, and others 9:00 - 6:00.

Entities Responsible for Implementation: TDM Coordinator, Employers

Intent and Purpose: The intent of the Alternative Work Schedules strategy is to effectively remove people (thus vehicles) from the peak hour commute periods while allowing them a schedule that fits their needs and wants outside of work.

This strategy could mitigate growth in traffic congestion along the WMPO Congestion Management Commuting Corridors and Commercial Corridors (see Appendix D).

Existing Conditions: The extent of flexible/compressed work weeks currently practiced in the Cape Fear Region is unknown. The City of Wilmington, UNCW, and PPD have alternative work schedule policies however a complete inventory of employers/employees functioning in an alternative work schedule does not exist.

Potential for Application: This strategy is driven primarily through education, outreach, and promotion. The WMPO’s role will include communicating with area employers, determining if there are opportunities for alternative work schedules, assisting with the development of an alternative work schedule policy, and promoting and implementing the policy to current and new employees. The WMPO can also promote this strategy through public awareness and other campaigns.
Costs:
- WMPO staff time dedicated to coordinating with area employers, developing an inventory of alternative work schedule opportunities, the development of an alternative work schedule policy, promoting and implementing the policy, and promoting alternative work schedules through public awareness and other campaigns
- Marketing supplies and materials

Benefits:
- Can reduce individual commuting trips by 20% or more
- Reduced peak-hour single occupancy vehicle trips
- Increased employee job satisfaction, productivity and morale
- Effective employee recruitment and retention tool
- Potentially longer hours of customer service for businesses

Disadvantages/Challenges:
- Could discourage carpooling/vanpooling
- Telecommuting - Some managers may not be comfortable with employees working from home

Performance Measures:

Congestion Management Process Matrix:
- Average travel time on the WMPO CMP network within a two year time frame

Other:
- Number of employees participating in an alternative work schedule program
- Number of employers who adopt a telecommuting/alternative work schedule policy
- Alternative Work Schedules Public Promotion:
  - Number of PSA’s developed about alternative work schedules
  - Number of TDM presentations given including alternative work schedule information

Strategy Implementation: The Alternative Work Schedule strategy should be bundled with other TDM tools presented to area employers. While discussing opportunities for carpooling/vanpooling and promoting bicycle and pedestrian infrastructure and park & ride lots, the TDM Coordinator should be discussing alternative work schedule opportunities with local business owners. Opportunities may lie with the local Chambers of Commerce to coordinate with the business community to help promote alternative work schedules and identify opportunities and constraints. Formal alternative work schedule policies should be developed/updated for suitable businesses. The policy should specifically address which job categories are suitable, what is required
of employees who qualify, what criteria are to be used to evaluate the performance of employees on alternative schedules, how employees schedules are determined and what is required to change schedules, periodic review of the arrangement, and model contracts and forms for establishing and tracking alternative work schedules.

Priority: The Alternative Work Schedule strategy is a high priority. As a low-cost strategy that is already being implemented to some unknown degree, it would be beneficial to gain a better understanding of this strategy and promote it throughout the regions.

Employer/Employee Goals: The Alternative Work Schedule strategy is one of five strategies that targets all seven employer/employee goals: mitigate growth in traffic congestion; reduce costs to employees and/or employer; address the needs/desires of employees; increase the opportunity for healthy living, recreation and time outside; increase the opportunity for running errands; increase the opportunity for time with family; and increase flexibility for the employee.
TDM Strategy 3 - Bicycle Sharing Program

Description: Bike share is a service in which bicycles are made available for individuals to rent on a very short term basis. One can pay by the hour to use a bicycle as needed then return the bicycle to any one of the bike share hubs. A bike share program consists of several components including a hub with a payment center, information tracking, instructions for use, information about other hubs, bike racks, and the bicycles. Another component is management of the bicycles. Sometimes bicycles need to be redistributed more evenly to all the hubs. A vehicle with a trailer is required to do this. Maintenance is another component. Bicycles need to be serviced regularly along with the information kiosk and payment center.

Entities Responsible for Implementation: Vendors (private bike share company), TDM Coordinator, Employers, Property Managers

Intent and Purpose: The intent of the Bike Share strategy is to provide a transportation option to those who would normally drive a car for a short trip. Bike share is an option that can complement a primary mode of transportation. If an employee needs to run an errand nearby, renting a bicycle may be an option. It also creates an expansion of the transit system by allowing people to use transit to deliver them part of the way to their destination then renting a bicycle to arrive closer to their final destination. Bike share is primarily used for transportation in areas of higher density. However, in the Cape Fear Region this strategy may also be beneficial to tourists who are interested in bicycling around Wrightsville Beach, downtown Wilmington, or Carolina Beach.

The Bike Share strategy could mitigate growth in traffic congestion along the WMPO Congestion Management Commercial Corridors, Destination Corridors, and Tourist Routes. Typically, it is not feasible to use bike share as a mode of transportation for a longer commute and therefore does not mitigate growth in traffic congestion along the Commuting Corridors. However, by having a bike share program available, an employee may choose to use an alternative transportation option (bus, vanpool, and carpool) as part of their commute because they have the option to use a bike for mid-day trips or errands. Therefore, bike share could mitigate the growth in traffic congestion along the Commuting Corridors as a secondary affect rather than a primary affect. Please see Appendix D for the corridors referenced.

Existing Conditions: Currently, UNCW is exploring bike share options primarily for their campus.

Potential for Application: UNCW would likely start a bike share program before any other area. UNCW has a one-mile policy that does not allow students who live within a one-mile radius to obtain a parking pass on campus. That creates an ideal bike share opportunity on campus as it increases demand for on-campus transportation options. It also creates an opportunity for bike
share to expand to the apartment complexes and shopping centers within the one-mile radius. The opportunity to expand bike share should be explored to consider downtown Wilmington and at strategic locations across the City of Wilmington such as Mayfaire, along the Cross-City Trail, etc.

Costs:
- Seattle’s bike share program includes 500 bicycles in six neighborhoods, costing $3.7 million estimated for startup and $1.4 million for yearly operating cost.
- Charlotte’s bike share program includes 200 bicycles and 24 stations strategically placed throughout Uptown and surrounding neighborhoods. Start-up costs were $850,000 and operational costs between $300,000 - $400,000 annually.
- Montgomery County, Maryland will be installing 20 stations and 200 bicycles for approximately $2 million.
- UNCW received an in-depth proposal to include software, maintenance, startup, and support for $210,440. This includes 4 stations and 40 bicycles. The cost per station is $52,610 and the cost per bike is $5,261.

Benefits:
- Increases the flexibility during the work day for alternative mode commuters
- Lowers air pollution and greenhouse gas emission from cars
- Reduces peak hour congestion
- Mitigates congestion throughout the day, specifically in urban cores
- Adds character to a city
- Provides an option for college students who need to cross campus quickly
- Provides an opportunity for exercise (health and wellness benefits)
- Will provide green jobs or a green business opportunity
- Popular alternative to Millennials
- Attractive to tourists
- Creates an opportunity for exercise while providing a transportation option
- Complements the one-mile radius policy at UNCW - students who live within one mile of campus can not park on campus

Disadvantages/Challenges:
- Can not function as an evenly geographically distributed city-wide or region-wide program - only in specific concentrated locations such as UNCW, downtown Wilmington, or Wrightsville Beach
- Requires existing bicycle infrastructure and communication/information readily available about those facilities
Performance Measures:

Congestion Management Matrix:
- Bicycle and pedestrian CMP corridor counts per capita in the WMPO area within a two year time frame

Other:
- Number of bike share programs
- Number of daily, weekly, and monthly bike share rentals
- Number of monthly and annual bike share pass purchases
- Funds generated from hourly/daily/monthly/annual membership fees
- Bike share public promotion:
  - Number of PSA’s developed about bike share
  - Number of TDM presentations given including bike share
  - Number of events where bike share is promoted
  - Number of visits to bike share website
  - Number of awards/financial incentive programs for bike share

Strategy Implementation: A feasibility study should be conducted to best determine how to start a bike share program in the Cape Fear Region. There are a variety of options, including:
- Rolling out a large, comprehensive bike share program
- Starting with a smaller program at UNC-W, possibly including shopping and apartment complexes within a one-mile radius as a second phase
- Starting with a smaller program in Downtown Wilmington or Wrightsville Beach

Priority: The Bike Share Strategy is a medium priority. It is a higher cost strategy (up front), however it is not nearly as expensive as widening roads and other road construction required as a result of increased congestion.

Employer/Employee Goals: The Bike Share Strategy targets five of seven employer/employee goals: mitigate growth in traffic congestion; reduce costs to employees and/or employer; address the needs/desires of employees; increase the opportunity for healthy living, recreation and time outside; and increase flexibility for the employee.
TDM Strategy 4 - Car Share

Description: Car share is a model of car rental where people rent cars for short periods of time, often by the hour. One can pay by the hour to use a car as needed then return the car according to the car share program’s operating area layout. The simplest car share programs have only one or two pick-up points, but more advanced systems allow cars to be picked up and dropped off at any available public parking space within a designated operating area. Car share programs differ in their objectives, size, business models, levels of ambition, technology, and target markets but they do share many features. The more established operations usually require a check of past driving records and a monthly or annual fee in order to become a member. The total cost and maximum time a car may be used also varies. Reservations can be made online, by phone, by text, and some companies have an app that will allow you to make a reservation. Users are members and have been pre-approved to drive (background driving checks and payment method established). Many car sharing companies only provide the state minimum liability insurance. Some companies provide comprehensive and collision insurance. Some do not provide uninsured or under-insured insurance nor do they provide personal injury protection insurance.

Entity Responsible for Implementation: Vendors (private car share company), Employer, TDM Coordinator

Intent and Purpose: The intent of the Car Share strategy is to provide a transportation option to those who may not own a car, or function in a one-car family. If one does not own a car, or owns only one car in a family, they likely drive less than the average person. Car share provides an option to these people to use a vehicle as needed, in hopes they will continue to drive less than the average person. For example, many find car ownership in large cities such as New York and San Francisco to be too expensive. Mass transit allows them to function without the use of a car, but occasionally a vehicle is needed for a short period of time. Car share allows people to continue without purchasing (and driving) a vehicle while tending to responsibilities requiring a vehicle. Car share also benefits college students at universities (such as UNCW) that restrict vehicles on campus.

Car share is also a complement to other alternatives to the private automobile. It only makes sense as a part of a wider transportation package, in neighborhoods where transit, walking, and bicycling are a viable option. These are the same locations where single-car and no-car ownership is a viable option. Alternative transportation options allow car usage as necessary for occasional trips outside of the transit/walking/biking periphery, moving large items, or special occasions. It can also be an alternative to owning multiple cars for households with more than one driver. A long-term study of City CarShare members found that 30% of households that joined CarShare sold a car, others delayed purchasing one. Transit use, bicycling, and walking also
increased among members (3). A study of driving behavior of members from major car sharing organizations found an average decline in 27% of annual Vehicle Kilometers Traveled (VKT) (4). Car sharing is generally not cost-effective for commuting to a full-time job on a regular basis but for those who live near their work, are interested in a one-car family option, or would like to rely on transit, walking, or biking as a primary transportation method, car share would be a viable transportation option.

The Car Share strategy could mitigate growth in traffic congestion along the WMPO Congestion Management Corridors (see Appendix D), but it will be difficult to determine which corridors. If car share is offered in downtown Wilmington, then it would allow people to walk, bike, and use transit as a primary mode of transportation by providing flexibility for using a vehicle when needed. Theoretically, this would mitigate growth in traffic congestion along the streets in downtown Wilmington when one is biking, walking, and using transit more often. Car share could mitigate the growth in traffic congestion along Commuting Corridors as a secondary affect. By having a car share program available, an employee may choose to use an alternative transportation option (bus, vanpool, carpool) as part of their commute because they have the option to use a car for mid-day trips or errands. This opportunity could create a secondary affect along the Commuting Corridors rather than a primary affect.

Existing Conditions: UNCW is considering the implementation of a Car Share program. They are considering two vehicles with an hourly rate of approximately $8.00 - $9.00/hour, an overnight rate of approximately $35.00 - $40.00, and a 24 hour rate of approximately $66.00 - $72.00.

Potential for Application: Successful car sharing development tends to be associated mainly with densely populated areas such as city centers, universities and other campuses. Car share could be a feasible option for the UNCW area and in Downtown Wilmington. Working with parking managers could provide opportunities for designating car share parking in parking decks.

Costs: The organization/association renting the cars may be a commercial business or the users may be organized as a company, public agency, cooperative or ad hoc grouping. Potential costs could include the difference between monthly rental funds generated and the monthly minimum. For example, UNCW is considering a potential agreement stating if authorized users do not spend a minimum of $1,100 per month per vehicle, then UNCW would pay the vendor (car share company) the difference. Also, the vendor shall pay UNCW 25% of hourly personal usage revenue collected over and above $110 per month, per vehicle.
Benefits:
- Reduced parking demand
- Increases the flexibility during the work day for alternative mode commuters
- Popular alternative to Millennials
- Reduces the cost and responsibilities of car ownership
- Reduces vehicle miles traveled (VMT)
- Not limited by office hours
- Flexible - vehicles can be rented by the minute, hour, and day
- Helps mitigate growth in traffic congestion and pollution

Disadvantages/Challenges:
- Requires additional reserved parking spaces that may be in high demand in densely areas
- Could negatively impact the taxi companies’ business

Performance Measures:

**Congestion Management Process Matrix:** none

**Other:**
- Number of car share programs
- Number of people registering (pre-qualifying) for car share
- Number of car share rentals per day
- Revenue generated from car share rentals
- Car share public promotion:
  - Number of PSA’s developed about car share
  - Number of TDM presentations given including car share
  - Number of events where car share is promoted
  - Number of visits to car share website
  - Number of awards/financial incentive programs for car share

**Strategy Implementation:** A feasibility study should be conducted to best determine how to start a car share program in the Cape Fear Region. There are a variety of options, including campus car share at UNCW, expanding car share beyond UNCW to local businesses and multi-family residential areas, and a car share program in downtown Wilmington. There should be coordination with parking managers to determine if and where there is available existing parking for car share vehicles.

**Priority:** The Car Share TDM strategy is a medium priority. It would likely require an outside private company’s interest in developing a car share program in this area. The geographic area and target population in the Cape Fear Region is limited.

**Employer/Employee Goals:** The Car Share TDM strategy targets three of seven employer/employee goals: address the needs/desires of employees; increase opportunities for running errands; and increase flexibility for the employee.
TDM Strategy 5 - Carpool/Vanpool

Description: Carpooling is a strategy that creates opportunities for people to ride to work or run errands together in the same car (belonging to one of the participants), therefore saving on fuel costs, tolls, and also reducing the stress of driving. Vanpooling allows people to share the ride similar to carpooling, but on a larger scale with concurrent savings in fuel and vehicle operating costs. Vans may be provided by: individuals; by individuals in cooperation with various public and private support programs; through a program operated on behalf of an element of government or transit agency; or through a program operated on behalf of an employer. In many cases an employer may elect to subsidize the cost of the vanpool and the vehicles’ maintenance. In some cases, the vehicles are provided and maintained by the municipality. Typically, there is a website available to match people with potential carpool opportunities and vanpool opportunities. This website allows you to enter your locations of interest, the schedule you will need, and even smoking and music preferences. Once you are in the system, you can see if others nearby could be potential carpool matches, or if there is a vanpool opportunity you could join.

Entity Responsible for Implementation: TDM Coordinator, Employers, Wave Transit, Vendors (carpool/vanpool website company)

Intent and Purpose: The intent of the Carpool/Vanpool strategy is to reduce the number of vehicles on the road, therefore mitigating growth in traffic congestion. Carpooling and vanpooling reduces each person’s travel costs such as fuel, tolls, and the stress of driving. They also allot time to other pursuits such as reading, work, rest, and time for social media. Both are seen as an environmentally friendly and sustainable way to travel as sharing rides reduces carbon emissions, traffic congestion, and the need for parking spaces. Theoretically, for every two people who carpool, one vehicle is not on the road adding to traffic congestion, not increasing the parking demand, and not contributing to air pollution. Having 6-10 people riding in a vanpool provides an even greater impact.

The Carpool/Vanpool TDM Strategy could reduce traffic along the WMPO Congestion Management Commuting Corridor (see Appendix D) along with other roads that connect Wilmington with the surrounding communities, such as US 421, NC 133, and I-40.

Existing Conditions: Currently, the Wave Pool program is offered in the Cape Fear Region. The Wave Pool is a collaborative effort between the WMPO and the Cape Fear Public Transportation Authority which allows people to share a ride to work provided they live and work within reasonable proximity of each other and have similar commuting schedules. There are currently two Wave Pool options: vanpool and carpool. In a vanpool, Wave Transit provides the vehicle, maintenance, fuel and insurance, and employees pay a monthly fare for service. Vanpools typically require five members to be considered.
Currently, there are three vanpools operating. One is from Wilmington to Jacksonville, the other two from Wilmington to Elizabethtown. Wave Transit is currently securing an additional four vans to expand the vanpool program. To get a carpool started, and to request to join an existing vanpool or to apply for a new vanpool, the Wave Pool program offers a ride matching system through Share the Ride NC - the North Carolina’s Statewide Ride Matching System. Share the Ride NC (www.strnc.org) is a statewide website that was created to help form carpools and vanpools. It is provided free of charge in support of the effort to improve air quality. The website can house additional features like Emergency Ride Home (ERH), Commute Calendars, walking and biking information, One-Off Trip Matching, and incentive programs. Currently, Wave Pool offers an Emergency Ride Home Program for vanpool participants. Wave Pool commuters are to call Port City Taxi for an ERH trip and the cost of the taxi will be billed to Wave Transit. Vanpool participants are eligible for one free ERH every 30 days. Currently, there is not an ERH program established for carpoolers.

Potential for Application: The Wave Pool program needs a detailed marketing plan outlining opportunities for education and outreach for both carpooling and vanpooling opportunities. Not only does this information need to be promoted to the general public, but federal tax incentives are available to Wave Pool passengers and employers. While discussing alternative work schedules with area employers, the employers should also be educated on the tax incentives available to them for participating in the Wave Pool.

Implementation of the Park & Ride Lot TDM Strategy will increase opportunities for carpooling and vanpooling. Please see page 62 for proposed Park & Ride lots.

Also, an ERH program should be established for carpoolers. Until funding for a regional ERH program is established, creative ERH options should be explored, such as an employer-based ERH program or an employer-sponsored ERH program.

Costs: Carpooling does not involve any significant startup costs, but users do not pay into the system. Carpooling costs consist of marketing materials, paying a share to use the statewide Share the Ride NC website (approximately $2,000/year), and staff time dedicated to implementing a marketing plan. Also, as additional regions join the statewide ride share site, the burden of site maintenance and related administrative responsibilities are shifted to outside of the organization. Vanpooling involves a more significant startup cost, but users do pay into the system. In June 2014 Wave Transit purchased 12-passenger vans for $24,692 each, plus $1,200 per vehicle for the decals. 80% of the costs were covered by a federal grant with the local 20% match funded by Wave Transit. Wave charges $.42/mile. This cost covers the cost of fuel, insurance, maintenance, and capital expenses (the 20% match).
Benefits:
- Mitigated growth in traffic congestion
- Reduced commuting costs (fuel, vehicle maintenance, tolls)
- Reduced demand for parking
- Reduces the stress of driving in traffic (rotate drivers)
- Allows passengers time to relax, respond to emails, read the newspaper, etc.

Disadvantages/Challenges:
- Reduces flexibility during the work day (difficult to run errands)

Performance Measures:

Congestion Management Matrix:
- Average time travel on the WMPO CMP network within a two year time frame
- Number of people enrolled in Share the Ride NC

Other:
- Carpool/vanpool public promotion:
  - Number of PSA’s developed about carpool/vanpool
  - Number of TDM presentations given about carpool/vanpool
  - Number of events where carpool/vanpool is promoted
  - Number of visits to Share the Ride NC website
  - Number of awards/financial incentive programs for carpool/vanpool
- Number of vanpools running
- Number of people participating in each vanpool
- Number of Park & Ride lots

Strategy Implementation: With the Share the Ride NC website already available to people in the Cape Fear Region, and additional buses becoming available for vanpooling, education, and outreach is the next component needed to implement this TDM strategy. Staff time should be dedicated to promoting the Wave Pool program. There should be coordination with parking managers to identify and reserve preferred parking spaces for those who are participating in carpooling and for the vanpool vans.

Priority: The Carpool/Vanpool TDM Strategy is a high priority. Currently, the WMPO is funding the Share the Ride NC website for the Cape Fear Region. To benefit from this, the website needs to be heavily promoted throughout the region.

Employer/Employee Goals: The Carpool/Vanpool TDM Strategy targets three of seven employer/employee goals: mitigate growth in traffic congestion; reduce costs to the employee and/or employer; and address the needs/desires of employees.
TDM Strategy 6 - Consulting Services for Telecommuting Opportunities

Description: The Consulting Services for Telecommuting Opportunities TDM Strategy is an optional preliminary step towards developing and implementing an alternative work schedule option for a particular business. This TDM strategy was generated from the State of Maryland’s Teleworking Partnership with Employers (TPE) service. The Maryland Department of Transportation (MDOT)’s TPE offers free professional telecommute consulting services to Maryland employers looking to start or expand the organizations’ telecommute program. The Baltimore Metropolitan Council and the MDOT have contracted with the Telecommuting Advantage Group to work with a select number of businesses in the Baltimore region. This service is provided at no cost to the employer, with no obligation of any kind. This same TDM strategy is recommended for North Carolina, to be implemented by NCDOT, and therefore made available to businesses in the Cape Fear Region.

Entity Responsible for Implementation: NCDOT, TDM Coordinator, Employers

Intent and Purpose: The intent of the Consulting Services for Telecommuting Opportunities strategy is to provide business owners with the information necessary to implement telecommuting policies. This does not provide a direct impact on the Employer/Employee Goals, however it does provide a service that, if implemented, would satisfy all seven Employer/Employee Goals. Telecommuting can mitigate growth in traffic congestion and air pollution, but some business owners are hesitant to allow telecommuting due to understandable concerns: productivity, communication, responsibilities, etc. Providing consulting services to business owners will help identify feasible opportunities for telecommuting and will develop policies and procedures to ensure concerns regarding telecommuting issues are least likely to occur.

Consulting Services for Telecommuting Options would not directly reduce traffic congestion along any WMPO Congestion Management Corridors. However, if employees are telecommuting, this strategy would mitigate growth in traffic congestion along the Commuting Corridors and Commercial Corridors (see Appendix D).

Existing Conditions: Currently, the NCDOT does not offer consulting services to businesses for telecommuting opportunities.

Potential for Application: This TDM strategy is almost entirely the responsibility of NCDOT. A local or regional agency could also contract for these consulting services

Costs: As Maryland offers these services free of charge to businesses, they absorb the cost of those services from the Telecommuting Advantage Group. Their telecommute assistance program, Teleworkbaltimore.com, is a web-
based effort that provides free, limited support to qualified employers in the Baltimore region. MDOT sponsors the program at a total cost of $150,000 over two years, and the Baltimore Metropolitan Council manages it.

**Benefits:**
- Provides assistance to businesses hesitant to implement a telecommuting option to employees
- Free to the business owner with no obligation
- Secondary benefits include mitigated growth in traffic congestion, improved employee satisfaction
- Tertiary benefits include improved employee retention, reduced recruiting and training costs, competitive advantage in finding quality employees, improved productivity, reduced office space costs
- Would/could be made available to other regions in North Carolina

**Disadvantages/Challenges:**
- NCDOT does not currently have funding appropriated for this program
- Human resources guidelines/policies may need updating

**Performance Measures:**

**Congestion Management Matrix:** (none)

**Other:**
- Number of businesses who apply for telecommuting assistance
- Number of employers participating in an alternative work schedule program where telecommuting assistance was used

**Strategy Implementation:** Discussions need to be held with NCDOT to determine the feasibility of this program.

**Priority:** The Telecommuting Consulting Service TDM Strategy is a low priority. This may be a higher priority in a larger region, however in the Cape Fear Region, the Alternative Work Schedule TDM Strategy could serve as the appropriate effort towards promoting telecommuting opportunities.

**Employer/Employee Goals:** The Telecommuting Consulting Service TDM Strategy targets one of seven employee/employer goals: reduce costs to the employee and/or employer.
TDM Strategy 7 - Development Review

Description: The Development Review TDM Strategy includes reviewing development proposals and providing comments regarding when transit or TDM-related conditions may be appropriate, including the addition of sidewalks, bike lanes, multi-use paths, crosswalks, bus stops, bus pull outs, park and ride lots, and the purchase of transit vehicles.

Entity Responsible for Implementation: TDM Coordinator, WMPO Staff, NCDOT, Local Jurisdictions

Intent and Purpose: To create a systematic approach and process among all WMPO jurisdictions for integrating TDM policies as a way of meeting the region’s goals of mitigating growth in traffic congestion and accommodating travel through the complete transportation network. This will address TDM directly through the development approval process. Development review can maximize the use of available infrastructure by ensuring synergies with new development.

Development Review would not directly reduce traffic congestion along any WMPO Congestion Management Corridors (see D). However it would directly impact traffic congestion and traffic flow along the corridors being developed.

Existing Conditions: The Traffic Impact Analysis (TIA) is the process a developer goes through to determine if additional transportation improvements need to be made to accommodate the proposed development. Currently, the City of Wilmington, New Hanover County, and Carolina Beach have language that requires a Transportation Impact Analysis (TIA). Pender County has language that requires a TIA (100 peak hour trips), however, it is a low threshold considering the population projections. In the WMPO planning boundary, Wrightsville Beach, Kure Beach, Leland, Belville, and Navassa do not. If you have TIA requirements, a traffic engineer must submit a TIA for the project on an effected road network - this is required on a roadway with at least 3,000 vehicles per day.

Potential for Application: Language could be developed for all WMPO jurisdictions to guide TIA and development review for any new/improved development, allowing all WMPO jurisdictions to be on the same page regarding potential transportation improvements due to new/improved development. An inventory of help needed/wanted should be conducted first to determine which WMPO jurisdictions are interested.

Costs: Staff time required to research, review and improve TDM applications to the development review process.
Benefits:
- Can increase the number of employer shuttles, bicycle, pedestrian, and transit facilities
- Can assist with implementing plans
- Creates a policy-oriented method for implementing TDM strategies
- Can allow for future transportation infrastructure construction/construction planning through right-of-way easement dedication

Disadvantages/Challenges:
- Political will plays a strong factor
- Developers’ acceptance of transportation infrastructure recommendations vary - some developers are more willing to make these improvements than others

Performance Measures:

Congestion Management Process Matrix: (none)

Other:
- Number of code changes updated to complement TDM strategies

Strategy Implementation: The following steps need to be taken:
- Create an inventory of existing development review processes and inconsistencies in how the development review process is perceived by different user groups
- Identify successful practices and potential pitfalls
- Develop a list of recommendations for improvement (short-term and long-term) with implementation strategies

Priority: The Development Review TDM Strategy is a high priority. Developers are constantly going through the TIA process, therefore this initiative would strengthen an existing effort. It also helps ensure a “good growth” approach to our regional growth and development.

Employee/Employer Goals: The Development Review TDM Strategy targets two of seven employee/employer goals: mitigate growth in traffic congestion, increase opportunities for healthy living, recreation, and time outside.
TDM Strategy 8- Employer Shuttles

Description: An employer shuttle is a shuttle provided by the employer to connect employees from Park & Ride lots and satellite parking to the place of work. It is possible to share a shuttle between neighboring employers who, through an agreement, could share the cost of the shuttle.

Entity Responsible for Implementation: Employer, TDM Coordinator, and Wave Transit

Intent and Purpose: The intent of the Employer Shuttle strategy is to mitigate the growth in traffic congestion, provide an affordable transportation option to employees, and reduce parking demand. If employees are using a shuttle for the last portion of their commute, it will mitigate traffic congestion growth specifically near the participating employer. This would be a more affordable option for the employee, and it will reduce the demand for parking spaces for the employer. To provide flexibility and options to employees, the shuttle could carry employees to retail centers during the work day for lunch and errands. This would prevent shuttles and drivers from being idle during the work day while encouraging the use of alternative modes of transportation to get to and from work by providing access to these amenities.

The Employer Shuttle strategy could reduce traffic along the WMPO Congestion Management Commuting Corridors and Commercial Corridors (see Appendix D), along with other proximities of participating major employers.

Existing Conditions: Currently, there are no employer shuttles in the Cape Fear Region.

Potential for Application: A survey of needs should be conducted to determine which employers would be interested in this TDM strategy. The option of an employer shuttle between employers or at an employer center should be explored.

Costs: Single-employer shuttles are mostly self-financed. Shuttle providers in the San Francisco Bay area report hourly costs of $50 to $60, about half that of the larger transit operators in the Bay Area and roughly the same as the lowest-cost public providers. Operating and administrative costs typically run $2 to $5 a ride. Providers hold down costs by keeping administrative expenditures low, making cost-effective equipment purchases or leases, and contracting for maintenance. In a few cases the transit operator also provides drivers, but most shuttle services hire their own.

Benefits:
- Decrease the amount of parking needed by an employer
- Mitigate growth in traffic congestion
Disadvantages/Challenges:
- Flexibility for the employee is limited as access to their personal vehicle is limited to the shuttle schedule

Performance Measures:

Congestion Management Process Matrix:
- Average travel time on the WMPO CMP network within a two year time frame

Other:
- Number of employer shuttles in service
- Number of employer shuttles providing access to Park & Ride Lots

Strategy Implementation: The TDM Coordinator should begin conversations with local businesses and compile an inventory of interests in employer shuttles specifically for one company or for a group of companies. There should be coordination with parking managers to identify and reserve parking spaces for employer shuttles.

Priority: The Employer Shuttle TDM Strategy is a low priority. Without existing Park & Ride lots and a known demand for an employer shuttle, this strategy will remain a low priority.

Employer/Employee Goals: The Employer Shuttle TDM Strategy targets four Employee/ Employer Goals: mitigate growth in traffic congestion; reduces cost to the employee and/or employer; address the needs and desires of employees; and increases flexibility for the employee.
TDM Strategy 9 - Employer Transportation Coordinator

Description: An Employer Transportation Coordinator (ETC) is a staff person employed by a regional employer who would be responsible for the development, implementation, and administration of an employee transportation program. The program would provide transportation options to employees thus reducing company expenses by using pre-tax options and providing an improved employee benefit package to include Transportation (Commuting) Benefits. This would provide the employer with effective employee recruitment tools. The ETC will manage and promote TDM strategies for the employer and assist with overall transportation related issues within a company. This person could also manage a rewards/financial incentives program for ride sharing, and walking, biking or using transit as transportation to and from work. This person would serve as a liaison between the employer and the TDM Coordinator. It should be noted that this does not need to be one full-time employee (FTE) hired specifically for this program. Often this is several people in different departments - someone in human resources to promote the employee benefit package, someone in sustainability or transportation to administer the program, and/or someone in health and wellness to promote walking and biking to work. It is possible to share the ETC between employers or at an employment center such as a large shopping mall or concentration of small businesses. A Memorandum of Understanding (MOU) would be in place between the TDM Coordinator and the employers that would define the responsibilities of the ETC and provide a documented resource for those serving in this position. This would define relationships, help justify expenses for either party, outline the basics that a company would have to do, and demonstrate company buy-in.

Entity Responsible for Implementation: TDM Coordinator, Employer(s), Wave Transit

Intent and Purpose: The intent of the ETC TDM Strategy is to provide a specialized TDM program specifically for an employer rather than a region-wide TDM program that may or may not be specific to that employer, their needs, or the surrounding built environment. This person would ensure TDM strategies were being implemented within that company or group of companies.

The ETC TDM Strategy could reduce traffic along the WMPO Congestion Management Commuting Corridors and Commercial Corridors (see Appendix D), along with other proximities of participating major employers.

Existing Conditions: Currently, there are no formal ETCs in the Cape Fear Region however there are staff at several employers that assist with coordinating alternative modes of transportation for their employees.
Potential for Application: A survey of needs should be conducted to determine if an employer would be interested in this TDM strategy. The option of an ETC between employers or at an employer center should be explored.

Costs: The ETC TDM strategy would cost the employer(s) salary and benefits for the ETC plus promotional/marketing materials.

Benefits:
- Demonstrates company buy-in (particularly with a MOU in place)
- Increase the number of people using walking, biking and transit
- Increase participation in carpool and potentially vanpool
- Potentially increase the number of people participating in alternative work schedules

Disadvantages/Challenges:
- It could be difficult to get commitment from an employer to manage these responsibilities and to report back to the TDM Coordinator for additional coordination, to provide data, etc.

Performance Measures:

Congestion Management Process Matrix: (none)

Other:
- Number of FTE’s from participating TDM businesses dedicated to promoting TDM initiatives

Strategy Implementation: The TDM Coordinator should begin conversations with local businesses to determine interest in ETCs specifically for one company or for a group of companies.

Priority: The ETC TDM Strategy is a medium priority. If the TDM Coordinator decides to take on the employer-based approach as described on pages 26 and 27, this priority should be considered an essential program element.

Employer/Employee Goals: The ETC TDM Strategy is one of five strategies that targets all five Employer/Employee Goals: mitigate growth in traffic congestion, reduces cost to the employee and/or employer, address the needs and desires of employees, increases opportunities for healthy living, recreation and time outside, increases opportunities for running errands, and increases flexibility for the employee.
TDM Strategy 10 - Bicycle and Pedestrian Infrastructure

Description: The Bicycle and Pedestrian Infrastructure Strategy includes promoting the existing bicycle and pedestrian facilities and constructing new facilities to expand the existing network. These facilities include multi-use paths, bike lanes, sidewalks, high-visibility crosswalks with push-button pedestrian heads, and other improvements for multi-modal transportation.

Entity Responsible for Implementation: NC DOT, local jurisdictions, WMPO staff, TDM Coordinator

Intent and Purpose: The intent of the Bicycle and Pedestrian Infrastructure TDM Strategy is to provide facilities that will allow for safe alternative transportation options. Providing bicycle and pedestrian infrastructure that connects to the area’s major employers would allow safe options for walking and biking to and from work. This could reduce the number of automobile trips. One study found that residents living within a half-mile of a cycling trail are three times as likely to bicycle commute as the country average (5). Another study found that walking is three times more common in a community with pedestrian friendly streets than in otherwise comparable communities that are less conducive to foot travel (6). Bike and walk commute options should be promoted to increase awareness of these opportunities.

The Bicycle and Pedestrian Infrastructure strategy could mitigate growth in traffic congestion along all the WMPO Congestion Management Corridors (see Appendix D) and any other roadway that has an adjacent bicycle and pedestrian facility. For example, the River to Sea Bikeway provides traffic congestion relief to S. 3rd Street, Wooster Street, Dawson Street, Oleander Drive, Wrightsville Avenue, and Eastwood Drive. The Gary Shell Cross-City Trail provides traffic congestion relief to S. 17th Street, Independence Boulevard, Randall Parkway, S. College Road, Eastwood Drive, and Military Cutoff.

Existing Conditions: There are a variety of bicycle and pedestrian facilities in the Cape Fear Region, including multi-use paths (greenways), bike lanes, sidewalks, bicycle boulevards, and high visibility crosswalks. Please see map on page 14 to see facilities existing at the time of the adoption of this plan. In the City of Wilmington, the Gary Shell Cross-City Trail serves as the primary bicycle and pedestrian facility. Several major employers such as Verizon and UNCW are along the Cross-City Trail or in close proximity. The River to Sea Bikeway is primarily a bicycle facility that connects downtown Wilmington to Wrightsville Beach. PPD, Inc., the City of Wilmington, and UNCW are along or within close proximity of the Bikeway. These facilities are currently promoted through Run, Ride & Roll (Cross-City Trail event) and the River to Sea Bike Ride. Bike to Work Week has been promoted in the Cape Fear Region in 2013 and 2014. In 2013, 62 people and 24 employers participated. In 2014, 133 people and 45 employers participated.
**Potential for Application:** Bicycle and pedestrian infrastructure is in high demand in the Cape Fear Region. According to Cape Fear Transportation 2040 survey results, 55% of respondents would like to bicycle more often to get to/from work and school and 44% of respondents would like to walk more often. To run errands, 61% of respondents would like to bicycle more often and 55% would like to walk more often. Two reliable sources of funds allocated to the region are Surface Transportation Program - Direct Attributable (STP-DA) and Transportation Alternatives Program - Direct Attributable (TAP-DA) funds. These funds are allocated to the WMPO on an annual basis. A competitive process has been designed to allocate these funds to the local jurisdictions within the WMPO. The total amount between these two funds is approximately $2.5 million annually. Additional funding sources include grant funding and Capital Improvement funds allocated within certain local jurisdictions’ approved budget. These projects can also be completed through the development review process.

The existing bicycle and pedestrian facilities should continue to be promoted throughout the region. Specifically, the facilities that are in close proximity to regional employers should be promoted within those organizations. The development/update of a regional bicycle map would provide information to commuters regarding the most suitable route to bike to work. Opportunities for event sponsorships should be addressed for the annual bicycle and walking events such as the River to Sea Bike Ride and Run, Ride & Roll.

**Costs:** The costs for bicycle and pedestrian infrastructure vary depending on length and type of facility, the form in which it is funded, and difficulty of construction.

**Benefits:**
- Increases the number of people walking and biking
- Mitigates the growth of traffic congestion
- Walking and biking is a healthier, active form of transportation

**Disadvantages/Challenges:**
- Funding can be difficult as matching funds are often required. This can be difficult for smaller municipalities
- Maintenance and operational costs of these facilities are generally not included in budget/funding approvals. This responsibility falls on the respective jurisdiction without any additional funding.

**Performance Measures:**

**Congestion Management Process Matrix:**
- Bicycle and pedestrian CMP corridor counts per capita in the WMPO area within a two year time frame
Other:

- Number of employers participating in Bike to Work Week
- Number of employees participating in Bike to Work Week
- Annual inventory of:
  - Number of PSA’s developed about bicycle and pedestrian infrastructure
  - Number of TDM presentations given including bicycle and pedestrian infrastructure
  - Number of employers promoting bicycle and pedestrian infrastructure
  - Number of events where bicycle and pedestrian infrastructure is promoted
  - Number of awards/financial incentive programs for using bicycle and pedestrian infrastructure

**Strategy Implementation:** The TDM Coordinator should provide input in the bicycle and pedestrian planning process and support local jurisdictions in their efforts to secure funding for bicycle and pedestrian facilities. Initiatives such as Bike to Work Week should be implemented to encourage people to use these facilities as a mode of transportation to get to and from work.

**Priority:** The Bicycle and Pedestrian Infrastructure TDM Strategy is a high priority. The existing facilities and known demand for more of these facilities makes this strategy a high priority.

**Employer/Employee Goals:** The Bicycle and Pedestrian Infrastructure TDM Strategy is one of five strategies that targets all Employer/Employee Goals: mitigates growth in traffic congestion; reduces cost to the employee and/or employer; address the needs and desires of employees; increases opportunities for healthy living, recreation and time outside; increases opportunities for running errands; and increases flexibility for the employee.
TDM Strategy 11 - Park & Ride Lots

Description: Park & Ride Lots provide opportunities for employees to drive a portion of the distance to work, park their car, then join a carpool, vanpool, or take local transit depending on which option(s) are available at that Park & Ride location. Park & Ride Lots vary in complexity from a simple Park & Ride Lot located at an existing large box store parking lot with designated parking spaces available for those who are carpooling and/or vanpooling to a full service transit hub such as Forden Station (also a transfer station) that serves as a base for all transit routes, includes Greyhound bus connections, and also provides parking for carpooling and vanpooling.

Entity Responsible for Implementation: TDM Coordinator, Employers, Wave Transit

Intent and Purpose: The intent of the Park & Ride Lots is to allow connections for carpooling, vanpooling, and public transportation that allow commuters and other people going to city centers to leave their vehicles behind for the remainder of their journey. Please see page 62 for the proposed Park & Ride Lot locations in the WMPO. This map also includes geocoded addresses from two major employers located within the City of Wilmington. As illustrated in this map, many residents live in close proximity to a major corridor. The proposed Park & Ride Lot locations are also located along major corridors to provide easy access to those interested in using them.

The Park & Ride Lots strategy could reduce traffic along the WMPO Congestion Management Commuting Corridor (see Appendix D along with other roads that connect Wilmington with the surrounding communities, such as US 421, NC 133, and I-40.

Existing Conditions: Currently, there is only one designated Park & Ride Lot in the Cape Fear Region, located at Wave Transit’s Forden Station. However, there are several unofficial locations where commuters meet to carpool to work.

Potential for Application: Cape Fear Commutes 2035 identifies 15 Park & Ride Lots within the Wilmington Urban Area by 2035. That list has been modified in the draft Cape Fear Transportation 2040. See page 62 for the updated proposed Park & Ride locations and the geocoded addresses of two major employers located in the City of Wilmington. As you can see, many employees live along the major corridors that connect to the Wilmington area where City and UNCW offices are located. Assuming other major regional employers have employees living in the same general areas, providing Park & Ride lots along these major corridors should provide employees in the region with opportunities for carpooling, vanpooling, and public transportation.
Costs: The cost for Park & Ride Lots varies greatly depending on the complexity of the facility, if land needs to be acquired, if a new lot needs to be constructed, or if an existing lot is available through an agreement with the lot owner.

Benefits:
- Mitigates growth in traffic congestion
- Allows commuters to avoid the stress of driving during the congested part of their commute
- Commuters can avoid parking expenses in city-centers
- Enhances carpooling, vanpooling, and public transportation opportunities

Disadvantages/Challenges:
- Acquiring lots
- Establishing ownership and maintenance responsibilities of lots
- Coordinating multiple modes of transportation

Performance Measures:
- Congestion Management Process Matrix: none
- Other:
  - Number of Park & Ride Lots
  - Number of employer shuttles providing access to Park & Ride lots
  - Number of cars parked at Park & Ride lots
  - Annual inventory of:
    - Number of PSA’s developed about Park & Ride lots
    - Number of TDM presentations given including Park & Ride lots
    - Number of employers promoting Park & Ride lots

Strategy Implementation: The proposed Park & Ride Lots should be prioritized according to demand and ease of development. The TDM Coordinator should take the lead to establish the prioritization list and look further into lot options, determining if land needs to be acquired, facilities need to be built, or if potential partnerships are available and using existing parking lots is feasible. Once Park & Ride Lots are established, the TDM Coordinator should ensure proper signage is in place and promote the lots to the public and the region’s employers and transportation providers. As a supporting effort and incentive, there should be coordination with parking managers to identify and reserve preferred parking spaces for those who are using Park & Ride Lots for carpooling.

Priority: The Park & Ride Lot TDM Strategy is a high priority. There is a known demand for designated Park & Ride lots. This strategy could also designate some of the unofficial Park & Ride lots used for carpooling.

Employer/Employee Goals: The Park & Ride Lot TDM Strategy targets four employer/employee goals: mitigate growth in traffic congestion; reduces cost to the employee and/or employer; address the needs and desires of employees; and increases flexibility for the employee.
Geocoded Employee Addresses from Two Major Employers in the City of Wilmington and Proposed Park & Ride Locations

Legend
- Park and Ride Locations
- Employee Residence
TDM Strategy 12 - Transit Amenities

Description: Transit amenities include:

- The provision of comfortable and convenient shelters/stations/stop locations to include benches, bike racks, transit information, lighting, etc.
- Perceived safety and cleanliness of vehicles, stops, stations, facilities, etc.
- Improved technology regarding arrival and departure times and internet access on vehicles
- Additional programs such as Wave Transit’s Bus Buddies, etc.

Entity Responsible for Implementation: Wave Transit, TDM Coordinator

Intent and Purpose: The intent of the Transit Amenities TDM Strategy is to encourage transit ridership by providing more than the minimum accommodations. Currently, minimum accommodations include a single post in the ground with a sign stating the arrival time of the bus for a particular route, and the bus provided for that route. Providing transit amenities beyond the bare minimum signage at bus stops would likely increase ridership. Surveys show that people are interested in a comfortable, enjoyable experience while using public transportation. This includes covered shelters with benches to give people a place to sit and will keep them dry during rain, bike racks to lock their bikes to, detailed transit information including maps, trash cans to help keep the area clean, well-lit bus stops, clean buses, Wi-Fi on buses, apps that will tell riders how far away a bus is and if there are any delays, etc.

The Transit Amenities strategy could mitigate growth in traffic congestion along the WMPO Congestion Management Corridors (see Appendix D), specifically ones that align with Wave Transit’s bus routes.

Existing Conditions: Wave Transit has an inventory of all amenities provided along their bus routes. They are also in the process of finalizing their 5-year shelter plan (replacement plan) that will include the addition of amenities at bus stops.

Potential for Application: Essentially, this is an effort that needs to be implemented. An inventory has been completed along with the 5-year shelter plan (replacement plan) to improve amenities. Funds need to be secured to implement the shelter plan.

Costs: On average, a bus stop shelter will cost $15,000 to replace/upgrade. This includes a bench, the shelter, trash can, lighting, and signage. Bike racks cost about $700. Digital signage with real time bus schedules cost an estimated $2,000. To develop an app for people to download to view real time bus schedules would cost approximately $200,000 and $25,000 annually to
maintain (these numbers are derived from Bloomington, Indiana’s transit app development).

**Benefits:**
- Increased public transportation ridership
- Mitigate growth in traffic congestion
- Improved community cohesion through potential increased choice ridership

**Disadvantages/Challenges:**
- Funds expended on amenities are perceived as funds that can’t be expended on transit service
- Difficult to measure the impact of investment in amenities

**Performance Measures:**

- **Congestion Management Process Matrix:** none
- **Other:**
  - Number of people participating in Wave Transit’s Bus Buddies program
  - Number of people using the app that will provide rider information
  - Number of people using transit

**Strategy Implementation:** Funding should be identified and secured to implement the 5-year shelter plan. New amenities need to be marketed in an effort to attract new riders and retain existing ones.

**Priority:** The Transit Amenities TDM Strategy is a high priority. Demand for improved transit amenities has been made clear through public surveys and the public’s general conversations with Wave Transit and the WMPO. With an outline for how to improve these amenities (Wave’s 5-year plan) already in place, this strategy is a high priority.

**Employer/Employee Goals:** The Transit Amenities TDM Strategy targets five employer/employee goals: mitigate growth in traffic congestion; address the needs and desires of employees; increases opportunity for healthy living, recreation and time outside; increases opportunity for running errands; and increases flexibility.
TDM Strategy 13 - Commuter Transit Routes

Description: Commuter Transit Routes are those that provide a direct route to employers and service a portion of a route without stops or a limited number of stops. They primarily navigate up and down the same corridor with stops at major points along the way or provide a quick connection between residential and business centers. Commuter Transit Routes are designed to carry a significant number of passengers from a major origin point to a major destination point, very similar to an express route.

Organization Responsible for Implementation: Wave Transit, TDM Coordinator

Intent and Purpose: The intent of the Commuter Transit Routes strategy is to increase ridership by providing transit service that can quickly cover a large geographic area. Commuter Transit Routes are designed to carry a larger volume of passengers between two major points such as a transfer hub or Park and Ride lot to a high density working environment, educational center, or shopping mall. They complement the spider web like road network that connects Central Business Districts with suburban areas. An example of a potential commuter route in Wilmington is along the Market Street corridor. Service would be provided along Market Street from downtown to Ogden, stopping a few times along the way at limited key locations. This express commuter service would allow individuals who reside in Ogden, Hampstead, and Jacksonville to connect to the downtown area and major centers along the Market Street corridor. Individuals who live in the downtown area could connect to Ogden and the major centers along the Market St. corridor.

The Commuter Transit Route TDM Strategy could mitigate growth in traffic congestion along the WMPO Congestion Management Commuting Corridors and Commercial Corridors (see Appendix D) as these primary routes such as Carolina Beach Road, College Road, Market Street, and Oleander would be ones considered for an express route.

Existing Conditions: Wave Transit currently operates the following commuter express routes: Route 108 Market St., Route 707 Red Express Shuttle and Route 709 Loop Express Shuttle. The two express shuttle routes operate primarily on and around the UNCW campus and are primarily used by students rather than commuters accessing employment. The above mentioned routes are the only express routes in the Cape Fear region.

Potential for Application: Wave Transit’s current Short Range Transit Plan (SRTP) does not call for an additional commuter express route. In the next few years this strategy will be revisited to determine if this is a potential opportunity.
**Costs:** The cost to implement this strategy varies depending on if this would be a new route created with a new transit vehicle, or if an existing route is modified. It would also require an education and outreach component to notify the public of the new/modified route.

**Benefits:**
- Satisfies a common complaint about existing bus routes regarding loop service with multiple stops. An express route is a down-and-back route with minimum stops that would allow the rider a shorter commute time.

**Disadvantages/Challenges:**
- Transit express routes typically cover less geographic area than other transit routes
- Transit express routes limit the number of stops along the route
- Transit funds are limited

**Performance Measures:**

**Congestion Management Process Matrix:**
- Average travel time on the WMPO CMP network within a two year time frame
- Percentage of fixed-route trips that are on-time in the WMPO area within a two year time frame

**Other:**
- Number of people using transit

Service delivery standards for express routes include: on-time performance and number of passengers carried and number of trips provided. Route efficiency measures include: number of passengers per revenue mile and number of passengers per revenue hour.

**Strategy Implementation:** This strategy would be implemented by Wave Transit. The TDM Coordinator and WMPO Staff should stay abreast of developments with this strategy.

**Priority:** The Commuter Transit Route TDM Strategy is a medium priority. Although there is a demand for express routes, Wave’s SRTP did not identify the need for one at this time.

**Employer/Employee Goals:** The Commuter Transit Route TDM Strategy is one of five TDM strategies that targets all seven community employer/employee goals: mitigate growth in traffic congestion; reduce costs to employee and employer; address the needs and desires of employees; increases opportunity for healthy living, recreation and time outside; increases opportunity for running errands; increase opportunity for time with family; and increases flexibility for the employee.
TDM Strategy 14 - Transportation Management Districts

**Description:** Transportation Management Districts (TMDs) provide concentrated services to encourage the use of transit and other commuting options in major business districts. It is a “neighborhood” approach to establishing TDM efforts including:

- Specifically targeting employers within the same TMD for adoption of commuter-benefits program
- Informing employees that work within the same TMD about commuting options and incentives
- Working specifically to improve transit and connections to transit in the TMD
- Develop congestion management strategies specific to that TMD to implement during peak travel times of the day and year (holiday shopping)
- Prioritize the construction of alternative transportation projects in the TMD
- Heavily promote TDM in the TMD
- Develop and implement a Transportation Management Plan for each TMD
- Provide TDM services to each TMD that will correspond to the level of expected development and redevelopment in the area.

**Entity Responsible for Implementation:** TDM Coordinator, Employers, Local Jurisdictions

**Intent and Purpose:** The intent of the TMD strategy is to provide specific, applicable TDM opportunities to a district based on their surrounding existing facilities (walking, biking, bus, etc.), future development, and the needs and desires of employees. TMDs foster and facilitate active partnerships with employers, land developers, civic associations, residents, and local governments. The goal of a TMD is to develop and implement a Transportation Management Plan that includes strategies to provide successful alternative transportation options specific to that district given their unique qualities and expected development and redevelopment.

The TMD TDM Strategy could mitigate growth in traffic congestion along the WMPO Congestion Management Corridors (see Appendix D), specifically ones where a major employer and/or business parks exist. Examples include Independence Boulevard and Shipyard Boulevard near the Barclay Business Park and Verizon Wireless. These are two major roadways that intersect with the Cross-City Trail and have existing bus stops.

**Existing Conditions:** Currently, there are no TMDs in the Cape Fear Region

**Potential for Application:** Potential TMDs include the Independence Mall area (Independence Mall, Hanover Center, and other businesses along Oleander
Drive and Independence Boulevard), the Downtown Wilmington Business District, Mayfaire, and the UNCW area.

**Costs:** Initially, these costs include TDM Coordinator staff time.

**Benefits:**
- Mitigate growth in traffic congestion
- Increase transportation capacity
- Reduce air and noise pollution
- Promote bicycle and pedestrian access
- Expand carpool/vanpool network
- Promote overall TDM initiatives
- Increase transit usage

**Disadvantages/Challenges:**
- Employer participation is key to a successful TMD. A TMD is a collection of small employers within an employment district or business park, it will require the participation from most/all of those employers to implement the TDM strategies and develop and implement a Transportation Management Plan for that area
- Working with many smaller organizations may have a smaller impact than working with a concentrated employer

**Performance Measures:**

**Congestion Management Process Matrix:**
- Average travel time on the WMPO CMP network within a two year time frame

**Other:**
- Number of TMDs established
- Number of businesses participating in a TMD
- Number of housing developments participating in a TMD

**Strategy Implementation:** This is a new concept in the Cape Fear region; Conversations should be informative with a clear understanding of commitment and obligation from businesses. An inventory of potential TMDs should be conducted including businesses that would be most likely to be interested in participating in a TMD. Once businesses are supportive of a TMD program, the TMD should be formally established followed by the development of the district-specific Transportation Management Plan, which should involve all businesses in the TMD.

**Priority:** The Transportation Management District TDM Strategy is a low priority. TDM in the Cape Fear Region should focus on gathering support and involvement from the region’s largest employers first. This could possibly increase participation between a collection of smaller employers in the future.
**Employer/Employee Goals:** The Transportation Management District TDM Strategy is one of five strategies that targets all seven employer/employee goals: mitigate growth in traffic congestion; reduce costs to the employee and employer; address the needs and desires of employees; increases opportunity for healthy living, recreation and time outside; increases opportunity for running errands; increase opportunity for time with family; and increases flexibility for the employee.
Appendix B - Performance Measures

The performance measures for TDM are divided into two categories: congestion management and other.

**Congestion Management:**

**Note:** Several of these performance measures are listed in the WMPO’s Congestion Management Process

**Objective:** Prioritize accommodations of all modes over motorized vehicular travel time along corridors that have potential for heavy multimodal usage

**Performance Measurement:**

- Bicycle and pedestrian CMP corridor counts per capita in the WMPO area within a two year time frame

**Collection Method:** DVR Monitoring

**Collection Agency:** WMPO

**TDM Strategy:** Bike Share, Bicycle & Pedestrian Infrastructure

**Objective:** Maintain or reduce travel times on congested corridors

**Performance Measurement:**

- Average travel time on the WMPO CMP network within a two year time frame

**Collection Method:** Floating Car Studies

**Collection Agency:** WMPO, City of Wilmington

**TDM Strategy:** Alternative Work Schedules, Carpool/Vanpool, Employer Shuttles, Commuter Transit Routes, Transportation Management Districts

**Objective:** Increase transit on-time performance

**Performance Measurement:**

- Percentage of fixed-route trips that are on-time in the WMPO area within a two year time frame

**Collection Method:** Wave Transit farebox data

**Collection Agency:** Wave Transit

**TDM Strategy:** Commuter Transit Routes

**Objective:** Increase vehicle occupancy rates

**Performance Measurement:**

- Number of participants in the WMPO’s TDM program

**Collection Method:** Number of people enrolled in Share the Ride NC

**Collection Agency:** WMPO

**TDM Strategy:** Carpool/Vanpool

**Objective:** Ensure the TDM plan is considered in the MTP and other transportation plans

**Performance Measurement:**

- Percentage of WMPO adopted plans the TDM is referenced over a two-year period

**Collection Method:** WMPO TAC Meeting Minutes

**Collection Agency:** WMPO

**TDM Strategy:** Full Time TDM Staff
Other:

Objective: Decrease the number of people commuting during peak commuting hours (8:00 am and 5:00 pm)
Performance Measurement:
- Number of employees participating in an alternative work schedule program
Collection Method: Survey employers
Collection Agency/Staff Person: TDM Coordinator
TDM Strategy: Alternative Work Schedules

Performance Measurement:
- Number of employers who adopt a telecommuting/alternative work schedule policy
Collection Method: Survey employers
Collection Agency/Staff Person: TDM Coordinator
TDM Strategy: Alternative Work Schedules

Performance Measurement:
- Number of businesses who apply for telecommuting assistance
Collection Method: NCDOT data for WMPO area businesses
Collection Agency/Staff Person: NCDOT, TDM Coordinator
TDM Strategy: Consulting Services for Telecommuting Opportunities

Performance Measurement:
- Number of businesses participating in telecommuting where telecommuting assistance was provided
Collection Method: Survey businesses who applied for telecommuting assistance
Collection Agency/Staff Person: TDM Coordinator
TDM Strategy: Consulting Services for Telecommuting Opportunities

Objective: Increase opportunities for using shared modes of transportation
Performance Measurement:
- Number of bike share programs
- Number of daily, weekly, and monthly bike share rentals
- Number of monthly and annual bike share pass purchases
- Revenue generated from bike share rentals
- Number of car share programs
- Number of people registering (pre-qualifying) for car share
- Number of car share rentals per day
- Revenue generated from car share rentals
Collection Method: Bike share and car share monthly reports
Collection Agency/Staff Person: Bike share and car share companies
TDM Strategy: Bike Share, Car Share

Performance Measurement:
- Number of people enrolled in Share the Ride NC
Collection Method: Share the Ride NC monthly reports
Collection Agency/Staff Person: TDM Coordinator
TDM Strategy: Carpool/Vanpool

Performance Measurement:
- Number of vanpools running
- Number of people participating in each vanpool
Collection Method: Vanpool quarterly report
Collection Agency/Staff Person: Wave Transit

TDM Strategy: Employer shuttles

Performance Measurement:
- Number of employer shuttles in service
Collection Method: On-going inventory
Collection Agency/Staff Person: TDM Coordinator

TDM Strategy: Development Review

Objective: Provide opportunities for employees to carpool, vanpool, and use transit through the development of Park & Ride lots

Performance Measurement:
- Number of Park & Ride lots
Collection Method: Post-development inventory
Collection Agency: - TDM Coordinator

TDM Strategies: Carpool/Vanpool, Park & Ride Lots

Performance Measurement:
- Number of employer shuttles providing access to Park & Ride lots
Collection Method: Survey employers
Collection Agency/Staff Person: TDM Coordinator

TDM Strategy: Employer Shuttles, Park & Ride Lots

Performance Measurement:
- Number of cars parked at Park & Ride Lots
Collection Method: Quarterly inventory
Collection Agency/Staff Person: WMPO/TDM Coordinator

TDM Strategies: Park & Ride Lots

Objective: Customize and promote TDM services to employers/employees/clients/the general public based on specific needs of the targeted group

Performance Measurement:
- Number of PSA’s developed
- Number of TDM presentations given
- Number of employers participating in TDM program
- Number of events with TDM promotion
- Number of bicycling events held
- Number of visits to website
- Number of employer transportation coordinators
- Staff time allocated to TDM strategies
- Number of awards/amount of financial incentives for ride sharing, walking, biking and using transit
- Number of employers participating in Bike to Work Week
- Number of employees participating in Bike to Work Week
- Number of Transportation Management Districts established
- Number of businesses participating in Transportation Management Districts
- Number of housing developments participating in Transportation Management Districts

Collection method: On-going inventory
Collection Agency: TDM Coordinator
TDM Strategies: Alternative Work Schedule, Bike Share, Car Share, Carpool/Vanpool, Bicycle and Pedestrian Infrastructure, Full Time TDM Staff, Park & Ride Lots, Transportation Management Districts

Performance Measurement:
- Number of Full Time Employees (FTEs) dedicated to promoting TDM initiatives
Collection Method: Survey
Collection Agency: TDM Coordinator
TDM Strategy: Full Time TDM Staff, Employer Transportation Coordinator

Objective: Increase/improve transit amenities
Performance Measure:
- Number of people using the app that will provide rider information
Collection Method: Inventory with Wave Transit
Collection Agency: WMPO and Wave Transit
TDM Strategy: Transit Amenities

Performance Measure:
- Number of people participating in Wave Transit’s Bus Buddies program
Collection Method: Inventory with Wave Transit
Collection Agency: WMPO and Wave Transit
TDM Strategy: Transit Amenities

Performance Measure:
- Number of people using transit
Collection Method: Wave ridership data
Collection Agency: WMPO and Wave Transit
TDM Strategy: Transit Amenities, Commuter Transit Routes
Appendix C - TDM Strategies and Goals Matrix

The table below illustrates the original 21 TDM Strategies identified at the beginning of this process (see page 18), cross-referenced with the employee/employer goals. Alternative Work Schedules, Bicycle and Pedestrian Infrastructure,

Purpose: to attract and retain talent through enticing opportunities to get to and from work

<table>
<thead>
<tr>
<th>TDM Strategies</th>
<th>Mitigate Growth in Traffic Congestion</th>
<th>Reduce Costs to Employee &amp; Employer</th>
<th>Address Needs and Desires of Employees on a Real Time Basis</th>
<th>Increase Opportunities for Healthy Living, Recreation, and Time Outside</th>
<th>Increase Opportunity for Running Errands</th>
<th>Increase Opportunity for Time with Family</th>
<th>Increase Flexibility for the Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative Work Schedule</td>
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<tr>
<td>Bike Share Program</td>
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<td>Car Share</td>
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<tr>
<td>Carpool/Vanpool</td>
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<tr>
<td>Consulting Services for Telecommuting</td>
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<tr>
<td>Development Review</td>
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<tr>
<td>Employer Shuttles</td>
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<tr>
<td>Employer Transportation Coordinator</td>
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<tr>
<td>Bike/Ped Infrastructure</td>
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<tr>
<td>Full Time TDM Staff</td>
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</tr>
<tr>
<td>TDM Strategies</td>
<td>Mitigate Growth in Traffic Congestion</td>
<td>Reduce Costs to Employee &amp; Employer</td>
<td>Address Needs and Desires of Employees on a Real Time Basis</td>
<td>Increase Opportunities for Healthy Living, Recreation, and Time Outside</td>
<td>Increase Opportunity for Running Errands</td>
<td>Increase Opportunity for Time with Family</td>
<td>Increase Flexibility for the Employee</td>
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<td>High Occupancy Vehicles (HOV) Lanes</td>
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<td>Toll and Express Toll (HOT) Lanes</td>
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<td>Light Rail</td>
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<tr>
<td>Park &amp; Ride Lots</td>
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<td>Transit Amenities</td>
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<tr>
<td>Commuter Transit Routes/Express Routes</td>
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<td>Transit Oriented Development</td>
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<tr>
<td>Transportation Management Districts</td>
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<tr>
<td>Trip Reduction Ordinance</td>
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<tr>
<td>Trip Reduction Program for Large Mixed-Use Developments</td>
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<td>Water Taxi</td>
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</table>

**Key:**
- Short-term (next 10 years)
- Long-term (10-25 years)
The list below outlines a specific list of TDM strategies that complement each of the employee/employer goals. If, for example, an employer is looking for opportunities to reduce their parking costs, they can refer to the second goal and explore those specific TDM strategies that might help reduce their costs.

Employer/Employee Goals:

- Mitigate the growth in traffic congestion (increase ease of commuting)
  - Alternative Work Schedules
  - Bike Share
  - Carpool/Vanpool
  - Development Review
  - Employer Shuttle
  - Employer Transportation Coordinator
  - Bicycle and Pedestrian Infrastructure
  - Full Time TDM Coordinator
  - Park & Ride Lots
  - Transit Amenities
  - Commuter Transit Routes
  - Transportation Management Districts

- Reduce costs to employee and employer
  - Alternative Work Schedules
  - Carpool/Vanpool
  - Consulting Services for Telecommuting
  - Employer Shuttle
  - Employer Transportation Coordinator
  - Bicycle and Pedestrian Infrastructure
  - Full Time TDM Coordinator
  - Park & Ride Lots
  - Commuter Transit Routes

- Address the needs and desires of employees
  - Alternative Work Schedules
  - Bike Share
  - Car Share
  - Carpool/Vanpool
  - Employer Shuttle
  - Employer Transportation Coordinator
  - Bicycle and Pedestrian Infrastructure
  - Full Time TDM Coordinator
  - Park & Ride Lots
  - Transit Amenities
  - Commuter Transit Routes
  - Transportation Management Districts

- Increase opportunities for healthy living, recreation, and time outside
  - Alternative Work Schedules
  - Bike Share
  - Development Review
• Increase opportunities for running errands
  o Alternative Work Schedules
  o Car Share
  o Employer Transportation Coordinator
  o Bicycle and Pedestrian Infrastructure
  o Transit Amenities
  o Commuter Transit Routes
  o Transportation Management Districts

• Increase opportunity for time with family
  o Alternative Work Schedules
  o Employer Transportation Coordinator
  o Bicycle and Pedestrian Infrastructure
  o Commuter Transit Routes
  o Transportation Management Districts

• Increase flexibility for the employee
  o Alternative Work Schedules
  o Bike Share
  o Car Share
  o Employer Shuttle
  o Employer Transportation Coordinator
  o Bicycle and Pedestrian Infrastructure
  o Park & Ride Lots
  o Transit Amenities
  o Commuter Transit Routes
  o Transportation Management Districts
Appendix D - Congestion Management Process - Five Functional Corridor Maps

The Congestion Management Process identifies five functional corridors: commuting, commercial, destination, tourist, and freight. Each of these have a primary network and a watch list.
Work Cape Fear: Expanding Commuter Options in the Cape Fear Region

Congestion Management Destination Corridors

LEGEND
- Primary Network
- Watch List
Congestion Management
Tourist Corridors

LEGEND
- Primary Network
- Watch List
Work Cape Fear: Expanding Commuter Options in the Cape Fear Region
## Appendix E - Work Plan

<table>
<thead>
<tr>
<th>TDM Strategies</th>
<th>Task</th>
<th>Year 1 2015</th>
<th>Year 2 2016</th>
<th>Year 3 2017</th>
<th>Year 4 2018</th>
<th>Year 5 2019</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative Work Schedule</strong></td>
<td>Develop an inventory of alternative work schedule policies from regional employers to be used as a guide/best practices</td>
<td>Inventory completed</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>15 employers with alternative work schedule policies</td>
</tr>
<tr>
<td></td>
<td>Increase the number of employers participating in alternative work schedule program (policy developed)</td>
<td>3 employers</td>
<td>3 employers</td>
<td>3 employers</td>
<td>3 employers</td>
<td>3 employers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase the number of employees participating in alternative work schedule program</td>
<td>Baseline data</td>
<td>Increase 5%</td>
<td>Increase 5%</td>
<td>Increase 5%</td>
<td>Increase 5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collect surveys from employees participating in alternative work schedules program</td>
<td>Surveys from 75% of employees participating from 3 employers</td>
<td>Surveys from 75% of employees participating from 3 employers</td>
<td>Surveys from 75% of employees participating from 3 employers</td>
<td>Surveys from 75% of employees participating from 3 employers</td>
<td>Surveys from 75% of employees participating from 3 employers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collect surveys from employers participating in alternative work schedule program on effective employee recruitment and retention tool</td>
<td>Surveys from 3 employers</td>
<td>Surveys from 3 employers</td>
<td>Surveys from 3 employers</td>
<td>Surveys from 3 employers</td>
<td>Surveys from 3 employers</td>
<td></td>
</tr>
<tr>
<td><strong>Development Review</strong></td>
<td>Conduct inventory of help needed/wanted from WMPO jurisdictions regarding TIA language in LDC</td>
<td>Improve TIA language in 1 jurisdiction's LDC</td>
<td>Improve TIA language in 1 jurisdiction's LDC</td>
<td>Improve TIA language in 1 jurisdiction's LDC</td>
<td>Improve TIA language in 1 jurisdiction's LDC</td>
<td>Improve TIA language in 1 jurisdiction's LDC</td>
<td>TIA language improved in 5 jurisdictions' LDC</td>
</tr>
<tr>
<td></td>
<td>Collect data on improvements made due to development review requirements</td>
<td>the number of additional employer shuttles, bicycle, pedestrian, and transit facilities constructed due to development review requirements</td>
<td>the number of additional employer shuttles, bicycle, pedestrian, and transit facilities constructed due to development review requirements</td>
<td>the number of additional employer shuttles, bicycle, pedestrian, and transit facilities constructed due to development review requirements</td>
<td>the number of additional employer shuttles, bicycle, pedestrian, and transit facilities constructed due to development review requirements</td>
<td>the number of additional employer shuttles, bicycle, pedestrian, and transit facilities constructed due to development review requirements</td>
<td></td>
</tr>
<tr>
<td><strong>Full Time TDM Staff</strong></td>
<td>Implement TDM Strategies and track performance measures</td>
<td>75% completion of selected strategies Y1 tasks</td>
<td>75% completion of selected strategies Y2 tasks</td>
<td>75% completion of selected strategies Y3 tasks</td>
<td>75% completion of selected strategies Y4 tasks</td>
<td>75% completion of selected strategies Y5 tasks</td>
<td>2-4 employers designated as Best Workplace for Commuters</td>
</tr>
<tr>
<td><strong>Inventory of potential Best Workplace for Commuters designation</strong></td>
<td>Begin conversations with potential employers</td>
<td>Review application and process with 1-2 employers</td>
<td>Submit application for 1-2 employers</td>
<td>Update inventory of potential designees</td>
<td>Submit application for 1-2 employers</td>
<td></td>
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</tr>
<tr>
<td><strong>Park &amp; Ride Lots</strong></td>
<td>Develop Park &amp; Ride Lots</td>
<td>Develop 2 Park &amp; Ride Lots</td>
<td>Develop 2 Park &amp; Ride Lots</td>
<td>Develop 2 Park &amp; Ride Lots</td>
<td>Develop 2 Park &amp; Ride Lots</td>
<td>10 Park &amp; Ride Lots Developed</td>
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</tbody>
</table>
## Appendix E - Work Plan

<table>
<thead>
<tr>
<th>TDM Strategies</th>
<th>Task</th>
<th>Year 1 2015</th>
<th>Year 2 2016</th>
<th>Year 3 2017</th>
<th>Year 4 2016</th>
<th>Year 5 2019</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transit Amenities</strong></td>
<td>Implement the Cape Fear Public Transportation Authority’s Five Year Bus Stop Enhancement Plan (2015-2020)</td>
<td>Replace existing amenities and add additional amenities in accordance to the Authority’s Five Year Bus Stop Enhancement Plan (2015-2020)</td>
<td>Replace existing amenities and add additional amenities in accordance to the Authority’s Five Year Bus Stop Enhancement Plan (2015-2020)</td>
<td>Replace existing amenities and add additional amenities in accordance to the Authority’s Five Year Bus Stop Enhancement Plan (2015-2020)</td>
<td>Replace existing amenities and add additional amenities in accordance to the Authority’s Five Year Bus Stop Enhancement Plan (2015-2020)</td>
<td>Replace existing amenities and add additional amenities in accordance to the Authority’s Five Year Bus Stop Enhancement Plan (2015-2020)</td>
<td>Replace existing amenities in transportation network (21 shelters, 23 independent benches, and 45 trash receptacles) and increase the number of new amenities as outlined in the Authority’s Five Year Bus Stop Enhancement Plan (2015-2020)</td>
</tr>
<tr>
<td><strong>Bicycle and Pedestrian Infrastructure</strong></td>
<td>Improve bicycle and pedestrian infrastructure</td>
<td>Number of bike lanes, multi-use paths, sidewalk and intersection improvements in region. Goal: 10% increase from Y1</td>
<td>Number of bike lanes, multi-use paths, sidewalk and intersection improvements in region. Goal: 15% increase from Y1</td>
<td>Number of bike lanes, multi-use paths, sidewalk and intersection improvements in region. Goal: 20% increase from Y1</td>
<td>Number of bike lanes, multi-use paths, sidewalk and intersection improvements in region. Goal: 25% increase from Y1</td>
<td>Number of bike lanes, multi-use paths, sidewalk and intersection improvements in region. Goal: 25% increase from Y1</td>
<td>25% increase in bicycle and pedestrian facilities</td>
</tr>
<tr>
<td><strong>Carpool/Vanpool</strong></td>
<td>Promote carpool/vanpool opportunities through 20 different outlets (events, presentations, mass emails, etc.)</td>
<td>Promote carpool/vanpool opportunities through 40 different outlets (events, presentations, mass emails, etc.)</td>
<td>Promote carpool/vanpool opportunities through 80 different outlets (events, presentations, mass emails, etc.)</td>
<td>Promote carpool/vanpool opportunities through 80 different outlets (events, presentations, mass emails, etc.)</td>
<td>Promote carpool/vanpool opportunities through 100 different outlets (events, presentations, mass emails, etc.)</td>
<td>Promote carpool/vanpool opportunities through 100 unique outlets</td>
<td>Carpool/vanpool promoted through 100 unique outlets</td>
</tr>
<tr>
<td><strong>Carpool/Vanpool</strong></td>
<td>Increase carpool and vanpool participation</td>
<td>200 people actively looking for carpool matches on website, 4 vanpools running</td>
<td>400 people actively looking for carpool matches on website, 5 vanpools running</td>
<td>600 people actively looking for carpool matches on website, 6 vanpools running</td>
<td>800 people actively looking for carpool matches on website, 7 vanpools running</td>
<td>1000 people actively looking for carpool matches on website, 8 vanpools running</td>
<td>1000 people actively looking for carpool matches on website, 8 vanpools running</td>
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<tr>
<td><strong>Car Share</strong></td>
<td>Implement car share program at UNCW</td>
<td>Review 3 company proposals, select best fit</td>
<td>Implement car share at UNCW</td>
<td>UNCW car share assessment</td>
<td>N/A</td>
<td>N/A</td>
<td>1 car share program at UNCW</td>
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<tr>
<td><strong>Car Share</strong></td>
<td>Collect data on car share usage</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td><strong>Secure opportunities for expanding car share</strong></td>
<td>Secure opportunities for expanding car share</td>
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Work Cape Fear: Expanding Commuter Options in the Cape Fear Region
## Appendix E - Work Plan

<table>
<thead>
<tr>
<th>TDM Strategies</th>
<th>Task</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Results</th>
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</thead>
<tbody>
<tr>
<td>Commuter Transit Routes</td>
<td>Determine need for additional transit commuter routes</td>
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<td>Prioritized needs will be implemented as funding permits.</td>
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<tr>
<td>Routes/Express Routes</td>
<td>Implement employer transportation coordinator option</td>
<td>2015</td>
<td>2016</td>
<td>2017</td>
<td>2018</td>
<td>2019</td>
<td>Employer #1 data - number of employees walking, biking, using transit, carpooling/vanpooling, participating in alternative work schedules</td>
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<tr>
<td></td>
<td>Collect data on impact of employer transportation coordinator</td>
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<td></td>
<td></td>
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<td></td>
<td>Employer #1, 2, and 3 data - number of employees walking, biking, using transit, carpooling/vanpooling, participating in alternative work schedules</td>
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<tr>
<td>Employer Transportation</td>
<td>Conduct a feasibility study to determine best locations to implement bike share program and options for expanding</td>
<td>Feasibility study completed</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1 bike share program at UNCW</td>
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<tr>
<td>Coordinator</td>
<td>Implement bike share program at UNCW</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1 bike share program at UNCW</td>
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<tr>
<td></td>
<td>Collect data on bike share usage</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1 bike share program at UNCW</td>
</tr>
<tr>
<td>Bicycle Sharing Program</td>
<td>Secure opportunities for expanding bike share</td>
<td>N/A</td>
<td>N/A</td>
<td>3 additional bike share hubs installed</td>
<td>3 additional bike share hubs installed</td>
<td>3 additional bike share hubs installed</td>
<td>9 additional bike share hubs</td>
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</tbody>
</table>
## Appendix E - Work Plan

<table>
<thead>
<tr>
<th>TDM Strategies</th>
<th>Task</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting Services for Alternative Work Schedule</td>
<td>Implement alternative work schedule assistance program</td>
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<td></td>
<td>3 organizations in Cape Fear Region seek assistance</td>
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<td></td>
<td>Preliminary conversations with NCDOT</td>
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<td>3 organizations in Cape Fear Region seek assistance</td>
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<tr>
<td></td>
<td>Implementation year</td>
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<td></td>
<td>3 organizations in Cape Fear Region seek assistance</td>
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<tr>
<td>Employer Shuttles</td>
<td>Implement employer shuttles program</td>
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<td></td>
<td>9 organizations in Cape Fear Regions seek assistance with alternative work schedules</td>
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<tr>
<td></td>
<td>Survey of potential shuttle opportunities</td>
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<tr>
<td></td>
<td>Secure funding, finalize maintenance and operations logistics</td>
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<tr>
<td></td>
<td>3 employer shuttles</td>
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<tr>
<td>Transportation Management Districts</td>
<td>Establish TMDs</td>
<td></td>
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<td></td>
<td></td>
<td>2 TMDs established</td>
</tr>
<tr>
<td></td>
<td>Meet with businesses to determine TMD interest</td>
<td></td>
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<tr>
<td></td>
<td>Establish TMD 1 and develop Transportation Management Plan for that district</td>
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<tr>
<td></td>
<td>Implement plan, collect baseline data on TMD 1</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Meet with businesses to determine TMD interest, collect data on TMD 1</td>
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<td>Establish TMD 2 and develop Transportation Management Plan for that district, collect data on TMD 1</td>
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Appendix F - Funding

Funding for Full Time TDM Staff

As illustrated on pages 23 and 24, a TDM Coordinator has some level of responsibility for implementing all 14 TDM Strategies. A TDM Coordinator takes on the lead responsibility, and is required for implementation of the following TDM Strategies:

- Carpool/Vanpool (using SharetheRideNC.org)
- Consulting Services for Telecommuting
- Development Review
- Full Time TDM Staff
- Park & Ride Lots
- Transportation Management Districts

A TDM Coordinator takes on a secondary, coordinating, or promotional role in the following TDM Strategies:

- Alternative Work Schedules
- Employer Transportation Coordinator
- Bicycle and Pedestrian Infrastructure
- Transit Amenities
- Transit Express Routes

Full Time TDM Staff is also one of the 14 strategies. This is estimated to cost $75,000 annually and would include salary, benefits, and marketing and outreach materials. Considering the impact a full time staff person would have on the implementation of this plan, securing funding for this position should be a priority.

NCDOT TDM Program

NCDOT has funded three TDM programs based out of Charlotte Area Transit Systems (CATS), Piedmont Authority for Regional Transportation (PART), and Triangle J Council of Governments (TJCOG). It is recommended that the applicable agency apply to NCDOT to fund the Cape Fear TDM program. NCDOT will fund TDM programs at 50%, requiring a 50% match. Funding a TDM Coordinator position would also provide administrative funding to implement all 15 TDM Strategies listed in this plan. It is also recommended that the applicable agency apply for funds to implement a marketing plan.

Coordinate with Regional Employers

Once conversations are started with individual regional employers and their transportation needs are determined, there could be opportunities for partnerships to provide the financial input to implement relevant TDM Strategies. The following TDM Strategies require capital and/or maintenance funds to implement, and could also benefit from partnerships to identify these funds:

- Bicycle Sharing Program
- Car Share
- Employer Shuttles
Funding Transportation Projects - DOT / NCDOT Funds

STP-DA and TAP-DA Funds

The WMPO was designated by the Federal Highways Administration (FHWA) on July 18, 2012 as a Transportation Management Area (TMA). Also referenced on p. ___, this drives the development of the Congestion Management Plan. This TMA designation also allocates significant funds to the region on an annual basis. The WMPO is allocated $2,762,416 in Surface Transportation Program - Direct Attributable (STP-DA) funds and $222,151.50 in Transportation Alternatives Program - Direct Attributable (TAP-DA) funds.

STP-DA dollars fund infrastructure projects. 15% of $2,762,416 is taken off the top for administrative purposes. The remaining balance, $2,348,054, is divided into four buckets, with 50% of the funds going into the bicycle and pedestrian bucket, 20% of the funds going into the transit bucket, 15% of the funds going into the intersections bucket, and 15% going into the roadways bucket. The 20% transit bucket is a direct allocation to Wave Transit, while a competitive process has been developed by WMPO staff to allocate the funds in the remaining three buckets. Potentially, STP-DA dollars could fund the following TDM Strategies:
- Carpool/Vanpool - Vanpool, specifically the purchase of the vans
- Employer Shuttles - the purchase of the shuttles
- Bicycle and Pedestrian Infrastructure
- Transit Amenities
- Transit Express Routes

TAP-DA dollars fund a wider variety of projects, including traffic calming techniques; speed reduction techniques; lighting; turnouts, overlooks, and viewing areas; removal of outdoor advertising; historic preservation/rehabilitation of historic transportation facilities; vegetation management; archaeological mitigation; bicycle parking facilities; traffic diversion improvements; bicycle and pedestrian public awareness/encouragement campaigns; sidewalks; pedestrian and bicycle signals; Rails-to-Trails projects; pedestrian and bicycle crossing improvements; on-street bicycle facilities; off-street bicycle and pedestrian facilities; boulevards and other roadways in the former interstate system; and a Safe Routes to School coordinator position.

Highway Safety Improvement Program

HSIP provides $2.4 billion nationally for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways, and walkways. Bicycle and pedestrian safety improvements, enforcement activities, traffic calming projects, and crossing treatments for non-motorized users in school zones are eligible for these funds.
Transportation for Elderly Persons and Persons with Disabilities (5310)

This program can be used for capital expenses that support transportation to meet the special needs of older adults and persons with disabilities, including providing access to an eligible public transportation facility.

Bus and Bus Related Facilities (5339)

This is a capital assistance for new and replacement buses, related equipment and facilities. It has traditionally been designated to specific projects at the federal level. This grant can be used for pedestrian or bicycle access to transit and bus racks.

Powell Bill Funds

Annually, Powell Bill State street-aid allocations are made to incorporated municipalities that establish their eligibility and qualify as provided by G.S. 136-41.1 through 136-41.4. Powell Bill funds shall be expended only for the purposes of maintaining, repairing, constructing, reconstructing, or widening of local streets that are the responsibility of the municipalities or for planning, construction, and maintenance of bikeways or sidewalks along public streets and highways. Funding allocations are based on population and mileage of town-maintained streets.

Grant Funds

North Carolina Parks & Recreation Trust Fund (PARTF)

The North Carolina Division of Parks and Recreation and the State Trails Program offer funds to help citizens, organizations, and agencies plan, develop, and manage all types of trails ranging from greenways and trails for hiking, biking, and horseback riding to river trails and off-highway vehicle trails. PARTF dollars have funded several projects in the Cape Fear region including portions of the Gary Shell Cross-City Trail and the River to the Sea Bikeway.
Works Cited


4. Socioeconomic data has been adopted by the WMPO’s Transportation Advisory Board in July 2013.