Transportation Demand Management

2018

ATLANTA'S TRANSPORTATION PLAN

The Access Strategy for Atlanta City Design

TABLE OF CONTENTS

TABLE OF FIGURES

INTRODUCTION

Atlanta's Transportation Plan is the access strategy for Atlanta City Design. The Plan is divided into a concise final report and a series of detailed technical appendices. The final report summarizes Atlanta's Transportation Plan in an easily digestible manner using infographics, maps, and images and is intended for the general public and elected officials. The technical memorandums are intended for planners, City staff, and implementation partners that require a higher level of detail.

As part of Atlanta's Transportation Plan, this technical memo focuses on programs, policies, and approaches to manage transportation demand in Atlanta. Transportation Demand Management (TDM) is the broad set of strategies that makes the most of available services and infrastructure by reducing the amount of travel made through driving alone. This memorandum provides an overview of current TDM programs in Atlanta, looks at several peer cities for comparison, and then makes specific recommendations for implementation of a robust TDM program in the City. Appendix A provides a suggested approach for TDM Plan Guidelines for real estate development.

BACKGROUND

The economic success of the City of Atlanta and its surrounding region have brought significant, sustained population growth over the last several decades, which has in turn increased travel demand throughout the metropolitan area. With Atlanta remaining the economic heart of a region with a transportation system dominated by roads, traffic congestion along major highway and street connections remains a top concern. In some areas, this has resulted in significant cut through traffic on local roads and neighborhood streets, especially those providing travel routes to major employment centers.

Anticipating and accommodating future transportation needs is a critical component of the regional economic development strategy. How do we accommodate the travel demand of increased population and employment growth with the transportation system? Making this change happen will require a broad paradigm shift in Atlanta, with a focused and sustained effort to meet new travel demand through travel modes other than driving alone. This includes shifting vehicle travel to more space-efficient modes such as transit, bicycling, and walking; shifting vehicle trips to non-peak hours of the day; or eliminating some vehicle trips altogether through more compatible land use patterns—a pillar of the Atlanta City Design strategic plan.

OBJECTIVES

TDM programs have emerged primarily as a response to traffic congestion, offered as a means of increasing reliability of transportation infrastructure by reducing driving at peak travel hours. However, TDM is equally important to allow new growth and development, and the Atlanta City

Design vision for future residential and employment—1.3 million residents and 1.2 million jobs—suggests far more travel demand than the current road-based transportation network can support. With this in mind, it is important to identify the main objectives for TDM in Atlanta and draw upon other efforts around the United States to understand how these approaches work.

Support New Development

Since the Great Recession of 2008-2012, Atlanta's population and employment growth have resumed at a fast pace, with several major employers relocating large numbers of jobs into the City of Atlanta from other parts of the region or the nation. Although growth has been focused in existing high-intensity areas, especially the Midtown and Buckhead business districts, significant increases in residential population have occurred on the Atlanta BeltLine's Eastside Trail corridor, along the Piedmont Road and Cheshire Bridge Road corridors, and in West Midtown. These areas do not have the MARTA rail service or the freeway access that Midtown and Buckhead do. For this reason, they have added substantial amounts of parking and brought new vehicle traffic to these areas. With future expansion of the Atlanta BeltLine and additional revitalizing corridors such as Memorial Drive, it is critical to establish strategies and policy frameworks to reduce vehicle travel impact in order to reduce congestion while providing alternatives to vehicle travel.

Manage Current Congestion

The same TDM programs that would reduce the vehicle trip impact of new development can also be used to manage the impact of current development today. Midtown Alliance has led perhaps the most proactive program of on-street bicycle rack installation in Atlanta, and both Midtown Alliance and Central Atlanta Progress have led small-scale planning efforts focused on improving access to two MARTA rail stations in each of their districts. Midtown Alliance has also partnered with private developers to develop TDM concierge-style services intended to share information on transportation choices and reduce overall driving travel demand.

Reduce Transportation Costs

TDM is also a key strategy in promoting transportation equity by facilitating travel choices, especially for lower-income households and individuals. Its connection with parking can help to reduce the overhead costs for employers and businesses, and can reduce development costs through its effects on parking demand.

Improve Public Health

Public health is improved when trips are shifted to alternative modes, such as walking and bicycling, by propagating active lifestyles. Meanwhile, reducing vehicle miles traveled lowers emissions of harmful air pollutants. Reducing overall vehicle miles traveled (VMT) is desirable, although difficult to achieve in light of anticipated growth. Nonetheless, the City should strive for an overall VMT reduction to lower crash exposure and potentially reduce traffic injuries and fatalities.

TDM OVERVIEW

This section provides a brief overview of conventional TDM strategies in use today. TDM is an evolving sector of the transportation planning practice and is not a one-size-fits-all solution. Effective TDM uses a variety of strategies to reduce drive alone rates, and one particular development or district may not use the same mix of strategies as another. Throughout the United States, the most successful cases of managing demand have employed multiple different strategies together, with an understanding that a broad set of travel purposes requires numerous options to make alternatives to driving effective. In addition, the practice is evolving rapidly with the advent of mobile technology and its abilities to provide real-time information to the traveling public. This continues to provide new options for managing travel demand.

TRANSIT ACCESS

Transit is one of the most prevalent TDM options, mostly because of its presence in communities throughout the United States. Promoting transit use through subsidized or free transit passes to residents, employees, or site visitors can reduce driving and parking demand and sometimes even improve travel reliability, especially when grade-separated transit can offer a more reliable travel time than driving on congested roads.

There are two primary elements of using transit as a TDM strategy: making transit services more physically accessible to potential users, and reducing the cost of transit use such that it is an attractive option.

First/Last Mile Transit Access

Transit services are typically accessed at stations or bus stops that may not be immediately adjacent to a given place of work or employment, in contrast to parking facilities that usually are. A key element of transit as a demand-management strategy is overcoming gaps in convenience or accessibility so that transit use is a logical and attractive option. Station and stop enhancements can include seating, signage, lighting, standing pads and other physical amenities designed to give passengers a sense of respect and comfort while waiting for transit vehicles. Bicycle racks and bikeshare stations can also be installed at transit stations in order to assist in last mile connections, and to expand the reach of transit service areas. Additionally, some transit systems and employers operate fixed-route circulator shuttles to help complete the connection between the station and nearby destinations. The recent advent of ride hailing services such as Uber and Lyft, as well as the very recent introduction of dockless shared scooters and bikes, has also helped transit commuters make their last mile connections.

Facilitating Transit Fare Payment

In addition to improving physical access to transit, using transit as a demand-management strategy also includes making it easier or less costly to ride transit. Virtually all transit services that extend beyond small-scale circulators charge fares,and streamlining of these fares is an important part of increasing transit's overall appeal.

This can include purchase or subsidy of bulk-ride transit fares, such as weekly or monthly passes allowing unlimited use of a transit system. Current tax law in the United States allows pre-tax payroll deductions to pay for transit, and many employers in major districts may have access to reduced-fare programs that lower the cost of transit services to their users.

WALKING AND BIKING

Active transportation options, or walking and bicycling, are key strategies in reducing driving demand, especially in areas with a good balance of housing and jobs in close distance to one another. Although these are most important in employment districts and other high-density areas where walking and biking for short trips can have their greatest impact, physical improvements to sidewalks, streets and off-street trails extend beyond these districts. Having a safe and convenient bicycle and pedestrian network throughout a city is the only true way to engage these modes of travel in reducing driving demand on a significant scale.

Secure Bicycle Parking and Repair Facilities

Adequate bicycle parking gives bicyclists the same reliability and security that drivers expect at sites where parking is provided. Secure, indoor bicycle parking, such as a bike room or bike lockers, adds an additional level of security for building occupants seeking long-term parking, as well as protection from weather and theft.

Secure bike storage areas should be clearly signed and easily accessible from main entrances. In order to attract higher usage rates, developers and designers should be strategic about the placement of bicycle parking within the building and not treat it as 'leftover space'. In addition to long-term parking, simple, outdoor sidewalk racks for visitors encourages patrons to visit on bike, particularly for mixed-use developments with ground floor retail.

In addition, bicycle maintenance and repair facilities are inexpensive but highly useful investments to manage occasional repair needs. Such facilities as do-it-yourself bicycle repair stands provide essential support for cyclists and can fit in a small space in a parking garage, bike room, or on the ground floor of a building. Some cities have made secure bicycle storage mandatory for new developments above a certain threshold.

Shower and Changing Facilities

For office developments, end-of-trip and support facilities can be very effective TDM measures. Shower, changing, and locker facilities promote bicycle commuting by providing a convenient place for bicyclists to deal with the effects of active transportation and weather elements and a secure place to store clothing and other necessities. Some cities have made these facilities mandatory in new developments above a certain size threshold.

Shared Mobility

Shared mobility devices, such as docked or undocked bike and scooter programs, make the convenience and speed of biking in an urban setting widely available by providing users with short-term use of bicycles or other devices from a shared fleet distributed across a city or district. In Atlanta, these are currently operated by private businesses with a greater or lesser degree of City involvement. To provide easy access for tenants, developers or property managers may maintain their own small fleet of bikes or other devices or sponsor an on-site bikeshare station or dockless hub that is part of a larger existing system, creating connectivity with a larger area. In lieu of providing a station, residential developments or employers sometimes provide each new resident with a subscription to a local shared mobility program.

Although most shared mobility programs focus on a set district and feature pricing models that do not make long-distance use practical, they are useful ways of making last-mile connections to/from transit and facilitating short-distance circulation throughout their service area.

Pedestrian Network Enhancements

A walkable environment gives people more transportation choices and improves the overall quality of life. A well-designed network of streets and sidewalk systems are essential to make people feel safe. It also allows people to make connections between transportation modes as well as between neighborhoods. Investments in the pedestrian environment have positive impacts on all road users and can encourage economic vibrancy, physical activity and overall area health. Specific conditions, findings and recommendations with regard to the pedestrian network are addressed in the Pedestrian Facilities Technical Appendix.

RIDESHARING

One of the first major demand-management strategies to emerge was ridesharing, a general term encompassing private carpools and organized vanpools.

This continues to be used as a demand management strategy, though in large metropolitan areas such as Atlanta, the vast amount of travel origins and destinations makes organization of rideshare programs difficult. Individual employers have also faced difficulty with managing programs, providing shared vans to support rider pools, and managing emergency needs. For this reason, rideshare programs managed on a larger scale and with a larger base of users with

origins and destinations in the same general district may be more successful than employer based programs. Many people feel more comfortable with a more organic approach to organizing carpools and rely more on acquaintances and social networks than the ride-matching services provided by some programs,

Guaranteed Ride Home

Employees who use carpools, vanpools, and transit may worry about their ability to get home if they must stay late, get ill, or have a family emergency. Guaranteed Ride Home programs support carpooling and transit use by provide options for registered commuters to receive vouchers for a ride home via taxi, ride hailing service, rental car, or other means in the event that they must work late or leave early. These programs can be set up on multiple scales from regional programs to those run by individual employers.

Guaranteed Ride Home programs have been shown to be important elements of TDM programs by helping new carpoolers or transit riders overcome the psychological hurdle of being carless.

INFORMATION

Effective TDM programs are those that are widely and easily understood so that participants may make informed choices based on their travel needs. Achieving this includes static materials, such as printed literature, websites and other basic informational resources, as well as dynamic, real-time systems that provide information on travel conditions and services at a given moment.

With recent advancements of mobile device and data capture technology, real-time travel and transportation information are increasingly available to the traveling public and used as a decision-making resource. Real-time information has long been common on highway systems and through phone and web-based resources. More recently, this has been increasingly integrated into transit systems and services to provide users up-to-the-minute information on arrival times, delays and other special announcements. However, as more technology-driven travel options become available, real-time information resources are becoming more comprehensive, covering travel conditions and options for multiple transportation modes at once. Common information systems provide the following types of information:

- Arrival times for buses (clock or count-down formats)
- Bus vehicle location (live mapping)
- Service disruption/delays
- Bikeshare availability
- Carshare availability
- Other information, such as current time and weather

These information resources are not provided exclusively through public infrastructure. Developers, property managers and individual employers can provide this information in the

form of interactive displays within their private spaces. Displays are usually large televisions in a waiting area or walkway with significant foot traffic, allowing people to make rational decisions about their travel in a matter of seconds. It also provides those without personal mobile devices with easy access to travel-time information.

WAYFINDING & CONNECTIVITY

Wayfinding signage can make an area easier to navigate and encourage people to travel by foot or bike. It can include signs that provide maps and directional information, or more simplified signage that simply indicates the distances to nearby attractions. Developers can install signage on their site as part of a larger wayfinding system, or work with city staff to develop a wayfinding system for a larger area.

Connectivity

Large developments should look to establish a street grid or preserve the existing street grid as much as possible. Site design should encourage pedestrian, bicycle, transit and vehicular connectivity through the project that links to neighborhood networks. Street abandonment requests should not detract from transportation network connectivity or hinder access through the site. Developers should design any private rights-of-ways or driveways that will be handed over to public ownership consistent with Atlanta's standard street design standards.

PARKING MANAGEMENT

Parking has historically been considered a necessity for successful development, but conventional practice in the United States has emphasized providing parking to serve individual uses and at levels that reflect community environments with few alternative travel options to driving. In cities and urban areas with a greater variety of land uses and travel options within close proximity, there is often less actual need for parking. Strategies to reduce the amount of parking that development provides have a direct reduction on development cost and allow land and space to be used for purposes that add more value and vitality to community environments, but they also help to reduce demand for driving to those locations.

Shared Parking

Building individual parking for each parcel or development often leaves underutilized parking facilities throughout the day, as different users may require parking at different times; for instance, office workers may park during the day, while residents tend to require parking in greater numbers at night. Where feasible, sharing parking and using off-site parking to meet parking needs can both reduce the number of parking spaces provided and make more efficient use of supply. Allowing or requiring unassigned parking between building uses takes advantage of varying parking demand throughout the day while reducing the need to build additional parking.

Unbundling Parking Costs

Parking permissions and a related cost for use of the spaces are often included in the sale, lease or rental price of housing and commercial space. "Unbundling" the cost of parking by removing the association between parking supply and usable space can reduce housing costs while providing an additional incentive to take advantage of modes other than driving.

Multi-Use and Adaptable Parking Structures

Although sharing parking among geographically adjacent land uses can already offer substantial reductions in the amount of parking that new development provides, the demand for parking may decrease in the future with the rise of car sharing and the expected introduction of autonomous vehicles. This makes the functional lifetime of parking facilities, especially structures, a critically important factor to consider today.

TELECOMMUTING AND FLEXIBLE HOURS

Technology changes have allowed more jobs to become portable and now allow many employees to telecommute, or work from home or other remote location at least part of the time. Not only does this give employees more flexibility in work options and reduces their commute time to zero, but for those employees who would ordinarily drive to work, it also reduces their overall number of vehicle trips. Many employers are also instituting flexible hours, which allows employees who must be at a specific work location to adjust their commute times to avoid the morning and afternoon peak travel times, thus reducing their commute time and their contribution to commute-related congestion.

CORDON PRICING

Cordon pricing is a form of congestion management in which vehicles that enter a defined geographic area are assessed a fee during peak travel hours. By applying market principles to corridors of constrained supply, cordon pricing can shift discretionary peak vehicle traffic to other modes or to off-peak periods, taking advantage of the fact that a majority of rush hour drivers on typical urban highways are not commuters. Notable examples of where cordon pricing has been successful includes London and Stockholm. Both cities have seen decreased levels of congestion in core areas, fewer traffic incidents due to congestion, and improvements in air quality, street connectivity and access.

CURRENT TDM PROGRAMS

TDM programs and services in the City of Atlanta are currently the responsibility of numerous agencies and organizations; primarily the Downtown and Midtown Community Improvement Districts (CIDs), Livable Buckhead, and the Georgia Commute Options program jointly administered by the Atlanta Regional Commission (ARC) and Georgia Department of Transportation (GDOT).

The City of Atlanta does not provide formal TDM programs and relies on partner organizations to provide services. However, the City of Atlanta does facilitate some general transportation services that fit within the larger family of TDM services. These efforts are summarized in the table below.

FIGURE 1 EXISTING TDM AGENCIES AND PROGRAMS IN THE CITY OF ATLANTA

Agency	Major Programs	Area of Effectiveness
Central Atlanta Progress/ Atlanta Downtown Improvement District	Discounted transit pass facilitation	Central Atlanta Progress study area
Midtown Alliance/Midtown Transportation Solutions	Discounted transit pass facilitation	Midtown Transportation Management Association (TMA) boundary
Livable Buckhead (formerly Buckhead Area Transportation Management Association)	Transit pass subsidy, Circulator shuttle Service (the Buc)	Buckhead CID boundary
Atlantic Station Access + Mobility Program	Bike Share Program, Circulator Shuttle Service	Atlantic Station development area with shuttle connection to Arts Center MARTA station
Private Employer Programs	Transit pass subsidy, Circulator shuttles	Varies, though generally between employer campus locations, educational institutions, and transit facilities
City of Atlanta	Relay Bike Share Program, Transit pass subsidy for City employees (through Central Atlanta Progress)	Downtown/Midtown/Buckhead activity districts, Georgia Institute of Technology, some close-in neighborhoods
Georgia Commute Options (State of Georgia/ Atlanta Regional Commission)	Rideshare matching program, technical assistance for employers and local governments	Atlanta metropolitan area

PARALLEL POLICIES AND PROGRAMS IN ATLANTA

Although conventional TDM efforts have not been applied on a broad scale throughout the City of Atlanta, other citywide development regulations and other public policies do control parts of the transportation system that influence travel behavior. Many of these are in place in the day-to-day regulations controlling development, and the most notable of these is parking. Although the City of Atlanta manages virtually no off-street parking, it does provide over 2,000 metered on-street spaces and sets requirements through its zoning ordinance on how much private off-street parking land developments must provide. These have led to large supplies of parking in the City, especially in major employment districts.

In addition to parking, other elements that serve to influence travel behavior are currently in effect in the City. These are mostly supporting facilities for encouraging bicycle travel and transit use, such as bicycle racks, storage facilities, and showers, with many found in the Special Public Interest (SPI) high-intensity mixed-use districts of the citywide zoning ordinance.

Zoning

Zoning, especially in the SPI districts, accounts for most citywide TDM in place in Atlanta today. Since the creation of the first SPI district in the early 2000s, the City has created several districts that set TDM requirements or place restrictions on parking.

FIGURE 2 ZONING DISTRICT TDM REQUIREMENTS IN ATLANTA

Zoning District	TDM Measure	Level of Requirement
SPI-1 (Downtown Atlanta)	Transportation Management Plan requirement	All development of office space 25,000 square feet or greater
	Maximum parking requirements and Parking Limitation District	All development in the SPI-1 District, maximums are less in the Parking Limitation District
	Carpool Parking Requirements	5 percent of new parking for office development over 100,000 square feet
	Bicycle Parking and Shower Requirements	Bicycle parking required for multi-family and non-residential developments; showers for office developments of over 50,000 SF
	Restriction on new park-for-hire surface parking lots	Surface lots are not allowed in the district as a primary land use.

Zoning District	TDM Measure	Level of Requirement
SPI-16 (Midtown Atlanta)	No parking minimums	No minimum parking requirements for any residential and commercial other than restaurants, maximum parking requirements for all
	TMA membership and TDM plan submittal	Required for all residential and office developments over 25,000 sf
	Bicycle Parking and Shower requirements	Bicycle parking required for multi-family and commercial developments; showers for offices over 25,000 sf
SPI-9 (Buckhead Village)	TMA membership and TDM plan submittal	Required of all development of 50,000 SF or greater
	Bicycle Parking Requirements	Bicycle parking required for multi-family and non-residential developments
	Restriction on new park-for-hire surface parking lots	Surface lots are not allowed in the district as a primary land use.
	Shared Parking Allowance	Allowed on an application basis (applicant submits analysis)
	Maximum parking requirements	Varies by development type
SPI-12 (Buckhead and Lenox Stations)	Connectivity and Block Standards	Pedestrian paths allowed to satisfy block connectivity standards
	Minimum and Maximum parking requirements	No minimum parking requirements; maximum varies by development type
	TMA membership and TDM plan submittal	Required of all development of 50,000 SF or greater
	Bicycle Parking Requirements	Bicycle parking required for multi-family and non-residential developments

BEST PRACTICES AND OPPORTUNITIES FOR ATLANTA

The leading applications of TDM throughout the United States have been in communities governed by strong state-level regulations on environmental review, vehicle trip reduction requirements, or mandates to reduce carbon emissions. Atlanta and Georgia do not have the same level of regulations, although the Atlanta region's nearly two decades of concerted effort to improve air quality have led to institution of several TDM programs. Even without these same state-level requirements, Atlanta faces many of the same traffic congestion challenges as metropolitan areas in states with stronger regulations, and there is no legal restriction from introducing stronger TDM programs.

This section discusses three case studies of TDM strategies, each applied at a different scale. All three are in California, which has strong state-level environmental review legislation and in recent years has begun to shift its method of assessing transportation impact of development from infrastructure level of service (LOS) to the amount of driving generated. Although the former is a measure of infrastructure capacity, it has also failed to adequately assess cumulative impacts of development over an entire metropolitan region. Assessing vehicle miles traveled (VMT) not only does this more effectively, it also allows a more straightforward way of quantifying the impact of shifting travel to non-driving modes and fits more directly into environmental policies such as air quality improvement.

The lessons for Atlanta in these best practices remain relevant; as the City's current and expected future levels of development activity, limited abilities to expand street and road infrastructure, and ongoing focus on improving regional air quality all point to a need for strategies to reduce driving demand.

LARGE-CITY SCALE: SAN FRANCISCO SHIFT PROGRAM

San Francisco has recently implemented a TDM policy framework in conjunction with its zoning and development ordinance that is arguably the most advanced and ambitious in the United

States.[1] Faced with ongoing growth pressure (and an especially critical need for added housing) but with a relatively fixed street network, the City has eliminated conventional traffic impact assessments (TIAs) from its development review process and has switched its primary transportation metric to the amount of VMT generated. At the same time, the City has increased its transportation impact fee structure—tying this to VMT as well—and introduced the SHIFT program to provide a menu of options for achieving VMT reduction.

The SHIFT program is the City's universal TDM plan requirement program. Its integration with San Francisco's zoning ordinance gives it a citywide focus and applicability, and developments of all different land uses and substantial scale are required to mitigate their transportation impact. The program is designed to recognize more significantly impactful forms of TDM as having a greater value in mitigation, but also allows less costly or complicated methods to be used and layered together. The City's planning agency has developed two freely available tools to guide applicants through the creation of a TDM strategy[2], increasing understanding of how different strategies can reduce impact and allowing applicants to explore strategies for impact reduction prior to development application submittal.

In addition to implementing a more effective approach to reducing travel demand and setting agreements on mitigation measures early in the process, the San Francisco development community has largely embraced this approach as it establishes a more streamlined development process with more predictable, certain outcomes. The transition from level-of-service-based traffic impact assessments has also removed a key tool of community development opposition from development discussions, as development adding intensity but accounting for trip reduction is able to demonstrate a much more robust degree of impact mitigation under this new system.

Applicability to Atlanta

Although San Francisco features greater geographical constraints than Atlanta, it serves as an example of how a city can implement highly specific development based TDM while addressing increased demand for new housing and employment space in core areas with relatively confined infrastructure. The SHIFT program has come from a need to allow new development to contribute to the City's economic growth while providing clear documentation of how new development can reduce transportation impact. The SHIFT program is a mechanism for the City to cooperate with developers and large employers to meet shared goals.

[1] The SHIFT program was adopted by the San Francisco Board of Supervisors on February 7, 2017. Its program standards document is available online at http://default.sfplanning.org/plans-and-programs/emerging_issues/tsp/TDM_Program_Standards_02-17-2017.pdf.

[2] The web-based version of the San Francisco SHIFT tool is available online at http://www.sftdmtool.org/.

DISTRICT AND CORRIDOR SCALE: SANTA MONICA LAND USE AND CIRCULATION PLAN

The City of Santa Monica's General Plan includes a Land Use and Circulation Element (LUCE) that sets a unified framework for development and managing transportation impact. Santa Monica has used a similar approach to development review to San Francisco, shifting its emphasis from negotiating reduced development intensity to increasing impact fees to more accurately reflect the cost to the public of a development's infrastructure use. Developments in designated growth districts, roughly equivalent to Santa Monica's historic rail and streetcar corridors, may build to their allowed development densities but pay transportation impact fees, and efforts to reduce the trips generated by providing TDM measures allow reductions to the impact fees being charged—and potentially greater density permissions.

Applicability to Atlanta

As in Santa Monica, many of the primarily single-family neighborhoods in Atlanta are well established and sensitive to changes in character and building scale. This is especially true outside of the urban core of the City, and with higher-intensity development areas often immediately adjacent to single-family neighborhoods. It is critical to demonstrate how impact can be reduced or eliminated when redevelopment areas add density.

Santa Monica also developed its transportation plan hand-in-hand with its land use plan, recognizing (as communities throughout the United States have been increasingly recognizing over the last two decades) that no transportation plans can succeed without compatible and equally strategic land use plans. In Atlanta, the Connect Atlanta plan in 2008 tied transportation planning with local development plans. The City is continuing to link transportation and land use by tying the Comprehensive Development Plan and the Atlanta City Design planning effort with the Atlanta's Transportation Plan.

EMPLOYMENT DISTRICT SCALE: MOUNTAIN VIEW NORTH BAYSHORE AREA

The North Bayshore area of Mountain View is a major concentration of technology corporations and employment, home to Google, Intuit and Microsoft's Northern California regional headquarters. The district consists primarily of suburban-style office park land development with limited access points, separated by an expressway from regional transit options and a more extensive street network that could support vehicle traffic. Because of the professional- and service-based nature of its employment, vehicle trip demand is high and concentrated in peak hours.

The City of Mountain View, in its North Bayshore Precise Plan, created a cap-and-trade system of development rights, entitling a fixed amount of commercial development to be tied to a maximum number of new trips measured at points of entry into the district. In this system, developers essentially compete for the commercial development rights through minimizing vehicle trip impact (and thus reductions of permitted trips against the cap) to the greatest extent possible.

The results of this program have been a relatively consistent set of traffic volumes at key entry points, with some locations even seeing decreases in traffic volume during peak periods.[3]

Applicability to Atlanta

Although the Downtown and Midtown employment and activity core is located at the primary crossroads of the region's freeway and transit systems, other activity districts in the City of Atlanta—especially the Buckhead business and commercial district—also experience high degrees of congestion and draw vehicular traffic from other parts of the region. In fact, only two percent (2%) of jobs in Buckhead are held by residents of that same area, in spite of a large and growing amount of residential development in the district. As the level of employment increases in core development areas of Atlanta, the North Bayshore Precise Plan may provide a useful example of how vehicle trips can be capped at major employment sites through the development process.

[3] City of Mountain View Trip Cap 2015 Trip Cap Report, available online at http://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=18225.

TDM PLAN IMPLEMENTATION

This section outlines the proposed implementation of comprehensive Transportation Demand Management in the City of Atlanta from a three-level approach: 1) Program Optimization, 2) Civic Implementation and 3) Developer Implementation (TDM Plan Guidelines).

PROGRAM OPTIMIZATION

Optimization of existing resources and TDM efforts can greatly expand Atlanta's potential for further population and economic growth through managing drive-alone travel demand. The following highlights multiple needs for the City of Atlanta to make existing strategies more effective and successful.

Requirement and Enforcement

Although multiple SPI zoning districts require submittal of TDM plans as part of a development's application and review process, there is currently no administrative capacity for enforcement of these plans at the City of Atlanta. Ongoing monitoring and reevaluation of TDM strategies currently occurs on a case-by-case, as-needed basis and primarily through the CIDs, most of which have their own development review agencies associated with the SPI districts. This reevaluation may also be in response to employer concerns or challenges and not necessarily in service of meeting defined targets for trip reduction.

If TDM is to be implemented more broadly throughout the City of Atlanta, especially in areas that have not historically had access to TDM services and expertise, it will be important to establish more definitive requirements of development. It will also be critical to require ongoing reporting and monitoring of TDM program effectiveness and to establish a system of enforcement of plans and agreements that are part of the development review process. This is essential to ensure sustainable mode shift away from driving-alone, especially as successive developments that bring new travel demand begin to meet the limits of available transportation capacity. Effective enforcement will require a shift in staff resources at the City.

Coordination and Branding

As described above, the organization and provision of TDM services throughout the City of Atlanta is primarily the responsibility of Community Improvement Districts (CIDs) and Georgia Commute Options. Formal TDM programming is not currently provided by the City. In order to facilitate increased usage of existing TDM options, and guarantee the success of future citywide initiatives, the City should actively collaborate with the CIDs and Georgia Commute Options. The City should look to organize a quarterly working group with CIDs, Georgia Commute Options, and other TDM providers to discuss challenges and potential strategies. In finalizing the proposed TDM Plan Guidelines for development, the City should solicit feedback from CIDs

on city-wide programs and requirements as well as strategies for implementation and monitoring. As the City moves forward with recommendations proposed in this Plan, discussion of how city-wide programs and requirements will mesh with the existing programs managed by the CIDs is critical.. Successful citywide TDM implementation will eventually require dedicating City staff to the initiative as well as the development of branding and messaging.

Distribution of Information

The division of transportation responsibilities over multiple agencies—the City for most streets and parallel infrastructure, MARTA for most transit, and the state of Georgia for expressways, not to mention the numerous employers, campuses and private organizations providing transportation and parking services—means that information on transportation choices is not readily available in a single resource. This is not unique to Atlanta, as most major cities rely on numerous organizations for information on transportation conditions, programs and services.

The City's current efforts to integrate data, information technology and transportation point to promising opportunities to bring many of these sources together and facilitate the creation of unified, user-friendly information resources.

Existing Employer Reporting

The City should establish commuter mode split standards and reporting guidelines for existing employers who employ 250 or more people at a single work site. Employers should be given a menu of workplace TDM strategies, similar to the TDM Plan Guidelines for development, to facilitate changes in mode choice. Initially, applicable employers should be held accountable to not exceed existing baselines of single-occupant vehicle (SOV) travel, such as those presented in the ARC Activity-Based Model by travel shed. As the City progresses in the adoption of citywide TDM strategies, the thresholds or "caps" for SOV travel for large employment sites can be reduced to reflect target SOV mode splits or modeled SOV mode splits based on the proliferation of TDM measures by travel shed. Compliance should be monitored on an annual basis through employee travel surveys that document daily employee mode choice for typical workweeks. Employers who surpass applicable thresholds should be assessed an in-lieu fee that contributes to citywide TDM initiatives.

Parking Policy Jurisdiction

Atlanta has historically managed none of its off-street parking: while much of this parking serves individual land uses, a large number of spaces are also available to the public for non-specific uses, especially in downtown Atlanta, but these are privately owned and operated. This existing parking along with ongoing increases to parking supply, driven heavily by zoning requirements and development, have created a plentiful amount of parking throughout the City and keep the price of parking low compared to other major American cities. This in turn has made driving directly to destinations easier and has reduced incentives to use alternative forms of transportation.

The City has control over nearly all of its on-street parking, although the more than 2,000 metered spaces in Atlanta are managed through private contracts and the City has limited control over pricing, time limits and other regulatory factors. In 2016, Atlanta executed a contract with a private management company to provide all parking meter payment collection and enforcement services; in exchange, the City receives a fixed-fee payment every year of the contract.

To address these issues, Atlanta needs to have more direct control over parking management, both on-street and off-street. This would allow greater ability to match on-street parking price with demand in an area, to assess surcharges on parking supply in high-congestion areas or areas with other transportation choices. The City could also guide development projects to meet any parking requirements or demand sharing of any underutilized parking in an area.

An additional parking policy measure to pursue would be the implementation of parking in-lieu fees for development. Parking in-lieu fee programs allow applicants for development projects or conversion of uses to pay a designated fee instead (or "in-lieu") of providing off-street parking spaces required by the zoning code. The purpose of an in-lieu program is not to impose an additional fee or burden on development, but to provide an alternative for projects having difficulty meeting minimum requirements on-site due to space constraints, financial feasibility, or both. Revenue generated by in-lieu fees should then be used to support public facilities that share parking between land uses and to finance other parking management or TDM initiatives.

CIVIC IMPLEMENTATION

As a large employer itself, the City of Atlanta has a great opportunity to reshape travel behavior by developing robust internal TDM programing. The City should take a leading role in defining preferred commuter transportation patterns by encouraging alternatives to single-occupancy vehicle commuting among its elected officials, employees and contractors. Measures for Civic TDM Implementation are described below.

Commuter Incentives

Existing commuter benefits for employees do not go beyond pre-tax payroll deduction for discounted transit passes. As a large employer, the City should seek to offer the same level of employee commute benefits that developers and employers will ultimately be required to provide. Recommended measures include annual Relay Bike Share membership, carshare membership and monthly contributions equivalent to 25-100% the cost of a MARTA Unlimited Ride Monthly Pass for all employees. Additionally, the City should actively promote the cash incentives offered by Georgia Commuter Options including the Gimme Five program for

commuters who switch from driving alone, monthly prize drawings for alternative commuters, gas cards for organized carpools, and $50 vanpool rider referrals.[4]

Events and Outreach

Workplace TDM programs are only useful to those who know about them. Providing information on available transportation options, applicable benefits, and facility amenities is critical to both new and continuing staff. The City should seek to actively encourage alternative commute options and promote available resources through staff orientation materials, departmental trainings, internal messaging, and events throughout the year. Cities with robust employee TDM programs, such as Cambridge, MA, provide employee commute manuals to all new hires providing maps and information for transit, shared bikes, and shuttle options at buildings frequented by staff. Events can range from annual transportation fairs to bi-monthly bicycle safety workshops. Additionally, the City should actively promote the free workplace services offered by Georgia Commute Options for City Departments and contractors including the following: onsite presentations, employee commute surveys, commuter ride matching for carpools/vanpools, and alternative work arrangement consulting.

TDM Amenities

City workplaces should strive to meet the targets highlighted in the TDM Plan Guidelines for offices of more than 10,000 square feet through the provision of TDM amenities. Recommended measures include secure bicycle parking, bicycle repair stations, changing and shower facilities, carshare parking, real-time information screens, and wayfinding. Additionally, the City should make a conscious effort to prioritize bicycle and walking conditions in the renovation of existing buildings and development of new facilities. Construction of new parking supply in the development of any City facility should be seen as a last option to preferred alternatives, such as shared parking agreements with private owners.

Parking Cash-Out

The City currently subsidizes approximately 500 parking spaces in the Government Center Garage to sell to employees at $35/month. The City should seek to offer parking cash-outs for any employee who is eligible to receive monthly parking at a subsidized rate. Parking cash-outs incentivize alternative commute modes by providing employees the choice to forgo subsidized or free parking for a cash payment equivalent to the cost of a parking space covered by the employer. Employees who agree to the cash out in lieu of parking should sign an agreement self-certifying their daily use of a non-drive alone commuter mode. In order to insure the feasibility of parking cash out, it is important that participants have access to an Emergency Ride Home program, or are offered a set number of occasional use one-day parking permits. Another, more direct, approach would be to raise employee parking pass rates gradually so that parking eventually becomes a significantly less appealing choice than other options. Given the

[4] http://gacommuteoptions.com/Save-Your-Commute/Earn-Cash.-Win-Prizes

City's increased desire to implement user fees such as cordon pricing and parking districts, the City should not shy away from implementing strong and direct measures for managing employee travel.

DEVELOPER IMPLEMENTATION

Cities create TDM Plan Guidelines to serve as a tool for developers to meet TDM Plan requirements for new development, and to assist city planning in mitigating and monitoring trip generation associated with new development. The purpose of these guidelines is to ensure that new developments are designed to facilitate travel for residents, tenants, employees, and visitors by modes other than single-occupant vehicles such as transit, walking, and biking. Appendix A provides a recommended approach for the City of Atlanta to begin creating TDM Plan Guidelines for development.

The document outlines a recommended TDM Plan Process (Plan Development, Application Review, Project Entitlement, Monitoring and Reporting), project applicability standards, TDM targets by land use, a menu of applicable TDM measures, and monitoring and reporting standards. The recommended approach is based upon best practice existing TDM Plan Guidelines such as San Francisco's SHIFT program, adjusted to the context of Atlanta with more conservative targets outside of core development areas. In creating the final ordinance all metrics included in the recommended conditions to meet the measures, such as square footage, number of parking spaces, and number of dwelling units should be calibrated with extensive local data collection. In addition, further review of best practice literature, interviews with other cities that have successfully adopted TDM plan guidelines for development, and consultation with the local development community should be conducted to help create an ordinance that best fits the context of Atlanta.

It is critical that both the development community and CIDs are comfortable with the adopted guidelines and the feasibility of enforcing selected measures. The draft TDM Plan Guidelines are meant to serve as a framework for the City to write an RFP for the creation of a TDM Ordinance that takes into account all of these considerations. While TDM requirements for development may be considered excessive for some areas of Atlanta at existing conditions, Multi-modal Urban Growth (MUG) travel modeling revealed that having a robust TDM program, particularly in areas with intense development pressure, is essential for maintaining overall transportation system functionally with projected population and employment growth. The final guidelines should not be conservatively set to accommodate existing conditions, but rather be crafted with a scope for future demand and build out of the transit network.

ACTION STEPS

In order to effectively adopt TDM Plan Guidelines within the next five years the City should take the following steps:

Early actions (1 year)

- Release an RFP for development of a comprehensive city-wide TDM program.

Midterm (2-3 years)

- Secure funding sources and internal resources for increased monitoring
- Establish commute mode split standards and reporting guidelines for employers with 250 or more people at a single work site
- Implement Civic TDM program for City employees
- Kickoff developer TDM work group to solicit feedback for the development of a TDM Plan Guidelines ordinance
- Develop TDM Plan Guidelines, calibrating metrics and point values with comprehensive local data collection

Longer Term (4-5 years)

- Regain municipal control of public parking facilities
- Adopt new TDM Plan Guidelines ordinance
- Consolidate the TDM program

APPENDIX A: SAMPLE DEVELOPER GUIDELINES

Introduction

The following provides a potential approach to developing guidelines, which could define Transportation Demand Management (TDM) standards for new development in the City of Atlanta. With growth forecasted for both residential population and jobs in Atlanta, these guidelines were crafted to ensure that new developments are designed to facilitate travel for residents, tenants, employees, and visitors by modes other than single-occupant vehicles such as transit, walking, and biking.

Based on prevailing best practices and guidelines implemented by other cities, the following is meant to provide a basis for creating an RFP to solicit services to develop a comprehensive TDM plan ordinance for new development in Atlanta. The following Plan Process, Standards, and Measures represent recommended approaches for developing guidelines and should be calibrated based on further study of local context. During the creation of Atlanta's TDM standards, all recommended metrics and requirements should be assessed and adjusted accordingly based on local data collection and projected travel rates by shed. In addition, the party awarded the aforementioned RFP should conduct further review of best practices and case studies and engage with the local development community for feedback.

TDM Plan Process

Figure 3 provides a recommended process for developer/property owner submittal and City review of a TDM Plan. The City should consider assessing a fee for submittal of a TDM Plan Review Application and/or TDM Plan Update, or include administrative costs in the budgeting process for the Planning Department.

FIGURE 3 TDM PLAN PROCESS TIMELINE

Phase	Action (Responsible Party)	Process
TDM Plan Development	Determine Applicability (developer/property owner)	Determine if the TDM Plan Guidelines are applicable to the development project from the TDM Plan Standards.
	Fill out TDM Plan Review Application (developer/property owner)	Developer/property owner fills out an application in accordance with the applicable requirements provided in the TDM Plan Guidelines.
	File TDM Plan Review Application (developer/property owner)	Developer/property owner submits application and administrative fee to the City.
Application Review	TDM Plan Review (DCP)	Department of City Planning reviews TDM Plan in accordance with the applicable requirements provided in the TDM Plan Guidelines.
Project Entitlement	Conditional Approval (DCP)	If the development project is approved, the submitted TDM Plan should be included as a condition of approval.
Monitoring and Reporting	Pre-Occupancy Site Visit (DCP + developer/property owner)	Department of City Planning conducts a site visit with the developer/property owner to verify all physical measures (bike parking, wayfinding, etc.) have been provided as planned before issuance of a Certificate of Occupancy.
	Monitoring and Reporting Update (DCP + developer/property owner)	Once the building is at least 50% occupied the developer/property owner should submit the first annual Monitoring and Reporting Update to the City. The Department of City Planning will review the update to verify all physical and programmatic measures outlined in the TDM Plan have been provided. Enforcement measures should be taken, if needed, to certify compliance.
	TDM Plan Update (developer/property owner)	At any time after entitlement, the developer/property owner may propose an update to the respective TDM Plan in case of a need to change or provide new programmatic measures.

Sample TDM Plan Standards

This section outlines standards that a developer/property owner could use in developing a TDM Plan. The standards below are an example of a points-based program and are not meant a prescription for Atlanta's TDM program but rather for consideration and discussion as Atlanta contemplates the development of a city-wide policy and program.

APPLICABILITY

Applicability of TDM Plan Standards should be based on type(s) of proposed land use and the intensity of development. For reasons of practicality, residential projects with less than 10 units and non-residential projects of any land use with less than 10,000 occupied square feet should be exempt from the TDM Plan Standards. The rationale for exempting projects below these intensity thresholds is threefold:

1. Projects at these scales may lack the adequate space to accommodate required physical TDM elements and may have limited resources to implement programmatic measures and monitor efficacy of TDM measures;
2. Requiring comprehensive TDM Plans for development at these scales may prove prohibitively expensive and discourage development, potentially placing artificial barriers to the provision of housing supply;
3. Resources required to monitor compliance of TDM Plan Standards for such developments would likely outweigh the levels of reduction in Vehicle Miles Traveled at such intensity. For affordable housing, research indicates that such developments, which often do not include accessory parking, generate significantly lower numbers of vehicle trips than traditional residential development. Additionally, for non-residential projects of less than 10,000 square feet, many applicable types of development would reduce overall vehicle trips or shorten vehicle trip length by increasing the diversity of land uses in a particular neighborhood.

Once a development project has been deemed applicable to the TDM Plan Standards, the components must be assessed under broader land use categories for which TDM targets can be assigned. Figure 4 provides four recommended land use categories for the basis of defining TDM targets, with the applicable land use types for each category that are listed as permitted primary use types in the Atlanta Code of Ordinances. The four land use categories are listed in descending order of anticipated trip generation. Category (A) Commercial/Cultural/Retail – covers uses with the highest rates of anticipated trips. Trips in this category are most closely associated with customers and visitors, whose trips tend to be shorter in nature than employees or residents. Given high rates of turnover, Category (A) uses tend to generate more trips per parking space than other uses. Category (B) Institutional/Office – covers uses where some trips may be from customers/visitors, but a majority are attributed to employees. Employees tend to have less turnover and thus generate fewer trips. Category (C) Residential – solely covers residential uses, which generate lower rates of travel than uses associated with customers,

visitors, and/or employees. Category (D) Other – represents uses with the lowest amount of trip generation, due to lower rates of employment density and a low rate of customers/visitors.

FIGURE 4 PLANNING CODE LAND USE CATEGORIZATION

Land Use Category	Applicable Land use Types[5]
(A) Commercial / Cultural / Retail	▪ Bakers and catering establishments; Banks, savings and loan associations, and similar financial institutions ▪ Churches, synagogues, temples, mosques and other religious worship facilities; Clubs and lodges; Commercial recreation establishments, including bowling alleys, theatres, convention halls, places of assembly, and similar uses; Community centers ▪ Eating and drinking establishments ▪ Laundromats ▪ Mortuary and funeral homes; Museums, galleries, auditoriums, libraries and similar cultural facilities ▪ Printing and blueprinting shops; Professional or personal service establishments; ▪ Retail establishments; Repair of office equipment or installations, home appliances, clocks and watches, shoes, bicycles and leather goods; ▪ Sales and leasing agencies for new and used cars, motorcycles, bicycles and mopeds; Service stations and car washes; Sports arenas and complexes ▪ Wholesale merchandise marts
(B) Institutional / Office	▪ Business or commercial schools; ▪ Child care centers, kindergartens and special schools; Clinics and laboratories ▪ Hospitals; Hotels and motels ▪ Nursing homes, personal care homes and assisted living facilities ▪ Offices, general ▪ Public and private schools and institutions of higher learning, including colleges and universities ▪ Rehabilitation centers ▪ Veterinary clinics
(C) Residential	▪ Residential use (Dwelling, lodgings and related terms)
(D) Other	▪ Manufacturing, wholesaling, repairing, assembly, processing, preparation, packaging or treatments of articles, foods, components, products, clothing, machines and appliances ▪ Market gardens ▪ Urban gardens

[5] Based off of permitted principal use types for SPI-1, SPI-3, SPI-4, SPI-9, and SPI-12 districts.

For **Mixed Use** projects, each land use within the development should be grouped within one of the four land use categories provided above. The intensity of development for all proposed uses that fall within the same land use category should be considered to determine the required target. Projects that contain proposed uses than fall within different land use categories (i.e. a residential tower with ground floor retail and dinning) should be subject to the separate targets for each applicable land use category proposed.

TARGETS

Targets define the number of points (achieved through the accumulation of TDM measures) required for an applicable development project to meet through a TDM Plan. The following recommended targets are based upon land use characteristics and the number of proposed parking spaces for a project. Baseline targets for each land use category are set at 25% of the available points for each land use category. The rationale for tying targets to proposed parking supply is prevailing industry best practice research which indicates that areas with high rates of parking are associated with higher levels of vehicular travel than areas with less parking. Individuals who do not have dedicated onsite parking at their origin or destination are far less likely to drive than those who do. Therefore, measures to facilitate travel by alternative modes and disincentives to using single-occupant vehicles are most needed at sites with greater amounts of parking supply.

The targets for core districts, which are shown in Figure 5, apply to all applicable projects proposed within the following Zoning Districts: SPI-1 (Downtown Atlanta), SPI-3 (Midtown Atlanta), SPI-4 (Arts Center), SPI-9 (Buckhead Village), and SPI-12 (Buckhead and Lenox Station). Figure 6 provides recommended targets for areas outside of the core districts where it may be more difficult to establish the most aggressive TDM measures. These proposed target thresholds are derived from average peak hour parking demand by land use presented in the Institute of Transportation Engineers (ITE) *Parking Generation 4th Edition* handbook. Given the wide array of zoning districts and subsequent minimum parking requirements across Atlanta, the City should further examine and refine these thresholds to best fit local context.

A component of the program could allow developers the opportunity to "buy down" impact fees imposed on their project by providing TDM measures in excess of their required target. This provides developers with the options to pursue the measures that are most feasible to them while meeting or exceeding TDM targets set by the City.

FIGURE 5 CORE DISTRICTS TARGETS

Land Use Category	Proposed Parking Spaces by Land Use	Target
(A) Retail	0 to 10 spaces	Base Target: 11 points
	Each additional 5 spaces	1 additional point
(B) Office	0 to 20 spaces	Base Target: 11
	Each additional 10 spaces	1 additional point
(C) Residential	Under 1 space per dwelling unit	Base Target: 9
	1 to 1.5 spaces per dwelling unit	10 points
	1.6 to 2.0 spaces per dwelling unit	11 points
	Each additional .5 spaces per dwelling unit	1 additional point thereafter
(D) Other	Any # of parking spaces	2 points

FIGURE 6 NON-CORE DISTRICT TARGET

Land Use Category	Proposed Parking Spaces by Land Use	Target
(A) Retail	0 to 2.55 spaces per 1,000 sq ft.	Base Target: 11 points
	Each additional 5 spaces per 1,000 sq ft.	1 additional point
(B) Office	0 to 2.84 spaces per 1,000 sq ft.	Base Target: 11 points
	Each additional 10 spaces per 1,000 sq ft.	1 additional point
(C) Residential	0 to 1.5 spaces per dwelling unit	Base Target: 9
	Each additional .5 spaces per dwelling unit	1 additional point
(D) Other	Any # of parking spaces	2 points

Point targets for some very large projects, which provide a high amount of parking, may exceed the amount of points available from applicable TDM measures. In this case, it is recommended that TDM plans for these projects provide all measures up to 80% of the total number of points available.

TDM MENU OF MEASURES

To achieve the TDM target for a respective plan, a developer/property owner may select as many measures as needed from the TDM Menu of Options. These measures are grouped into eight categories: Active Transportation, Car Share, Delivery Facilities, Family Amenities, Information, Parking, Shared Transportation, and Transit. Each measure is assigned a point value reflecting its relative effectiveness in reducing vehicle miles traveled. Measures with a range of points reward additional points based upon the level of intensity with which a measure is implemented.

The following TDM Menu of Options provides a recommended set of strategies, land use applicability standards, and points to award for measures selected for a developer led TDM Plan. In creating the final ordinance all metrics included in the recommended conditions to meet the measures, such as square footage, number of parking spaces, and number of dwelling units should be calibrated by extensive local data collection, further review of best practice literature, and interviews with other cities that have successfully adopted TDM plan guidelines for development to best fit the context of Atlanta.

FIGURE 7 TDM MENU OF OPTIONS

Category	Measure	Land Uses	Points
Active-1	**Enhance Walking Conditions** Provide streetscape improvements to encourage walking to and from site.	A, B, C, D	1
Active-2	**Bicycle Parking** Provide secure bike parking.	A, B, C, D	1
Active-3	**Bicycle Repair Station** Provide an on-site bicycle repair station with adequate tools.	A, B, C, D	1
Active-4	**Bike Share Membership** Offer Relay Bike Share membership to employees and/or residents. Additional point awarded if site is within 1,000 ft. of an existing or planned Relay Hub.	A, B, C	1-2
Active-5	**Changing facilities** Provide showers and lockers for active modes.	A, B, D	1
Active-6	**Loaner Bicycles** Provide on-site fleet of shared bikes for use of employees, residents, and/or guests.	A, B, C	1
Carshare-1	**Car Share Membership** Provide membership to a carshare service for employees and/or residents.	A, B, C, D	1
Carshare-2	**Car Share Parking** Provide carshare parking. Additional point awarded for providing recommended amount of spaces	A, B, C, D	1-2
Delivery-1	**Delivery Support Amenities** Provide staffed reception desk, delivery lockers, or other amenities.	A, B, C	1
Family-1	**On-site Childcare** Provide childcare services on-site.	A, B, C	2

Category	Measure	Land Uses	Points
Family-2	**Family TDM Amenities** Provide storage near carshare parking spaces for car seats and strollers. Provide shared cargo bike(s) and collapsible shopping/utility cart(s).	C	1-2
Family-3	**Affordable Housing** Provide affordable housing units on-site as specified.	C	1-4
Info-1	**TDM Marketing** Provide employees and/or residents with information on available travel options.	A, B, C	1-4
Info-2	**Wayfinding and Signage** Proving directional signage for TDM amenities (bike parking, shuttle stops, transit stations, etc.)	A, B, C, D	1
Info-3	**Real-Time Information** Provide monitors that display transit arrival and departure times.	A, B, C, D	1
Info-4	**Georgia Commute Options Partnership** Partake in free programs provided by Georgia Commute Options for employers.[6] (One point for every two programs)	A, B	1-6
Parking-1	**Unbundle Parking** Detach the cost of parking from rents or leases.	A, B, C	2
Parking-2	**Parking Cash Out** Where free parking is provided, give employees the option to receive the cash value of free parking in-lieu of a parking space.	A, B	2
Parking-3	**Price Parking** Parking charged at hourly or daily rates, no weekly, monthly, or annual permits provided.	A, B	2
Shared-1	**Vanpool Program** Provide vanpool services for employees.	A, B	2
Shared-2	**Rideshare Matching** Facilitate carpooling by matching potential riders.	A, B	1
Transit-1	**Transit Subsidy** Provide contributions or incentives towards the equivalent cost of a MARTA Unlimited Ride Monthly Pass for employees and/or residents.	A, B, C	1-4

[6] http://gacommuteoptions.com/How-We-Can-Help/12-Free-Services

Category	Measure	Land Uses	Points
Transit-2	**Shuttle Service** Provide shuttle service for use of employees, residents, and/or guests.	A, B, C	3-6

MONITORING AND REPORTING

Pre-occupancy

Prior to issuances of a Certificate of Occupancy, the property owner shall facilitate a site inspection by the Department of City Planning to confirm that all approved physical measures of the project's TDM Plan have been implemented. In addition, a representative from the development project, such as a TDM coordinator, should provide documentation of all programmatic measures of the TDM plan that have or will be implemented at the site. During the site inspection, Department of City Planning staff shall verify that all physical measures included in the TDM Plan are provided as specified.

Ongoing

Over the life of the project, Department of City Planning staff shall verify that the site's designated TDM representative (coordinator) is successfully maintaining all physical measures and providing all programmatic measures as specified in the TDM Plan. For the life of the project, the property owner should submit a Monitoring and Reporting Update on an annual basis. Once the site is at least 50% occupied the developer/property owner should submit the first annual Monitoring and Reporting Update to the City. The Department of City Planning will review the update to verify all physical and programmatic measures outlined in the TDM Plan have been provided. Enforcement measures should be taken, if needed, to certify compliance. City staff should conduct a site visit, at minimum of every three years, to confirm that all implemented physical measures meet specified standards.

Plan Update

At any time after the approval of a development project's building permit, the property owner may propose an update to the respective TDM Plan. Potential reasons for proposing an update include the alteration of measures within a TDM Plan or reducing/increasing the number of parking spaces associated with the development.

MEASURE UPDATES

Updates to the TDM Menu of Options may be made to reflect new findings on the efficacy of measures included in the Menu or for those not previously included in the Menu. As sites subject to the proposed TDM Plan Guidelines undergo monitoring and reporting, findings may arise with collection of locally sourced data. The Menu may be updated to better reflect the relative effectiveness of measures within a local context, both geographically and from a land use perspective. Point values may also be adjusted to reflect future citywide and or regional

VMT targets or trip reduction initiatives. Additionally, the City should monitor the advancement and proliferation of autonomous vehicle technology and related changes in travel and parking demand to update the guidelines accordingly.

TDM PLAN MEASURES

Overview

This section provides further information for all measures recommended for inclusion in the TDM Plan Guidelines Menu of Options. Implementation requirements for successfully achieving the desired amount of points for each measure are described by the applicable land use categories. Monitoring and reporting procedures are provided for each measure to assist the City in certifying that requirements are met.

Justification for each measure is provided to offer any estimate of potential trip reduction for each measure. There are challenges inherent in trying to estimate the effects of any one TDM investment. While research on vehicle trip reduction strategies often attempts to isolate the stand-alone effects of implementing such policies and programs to understand the actual relationship between specific strategies and travel behavior, it is difficult to isolate these effects. In practice, TDM measures are implemented concurrently, as they are synergistic. The recommended TDM Menu of Options includes a variety of measures that have been researched by the California Air Pollution Control Officers Association (CAPCOA). In a 2010 report, CAPCOA provides a way to quantify the total impact of different strategies implemented together in various areas and communities throughout the country. The CAPCOA report is based on an extensive literature review of the effectiveness of TDM and other GHG-reduction strategies implemented across the US, and provides clear guidance on the assumptions and limitations of each measure.

TDM strategies are not additive but rather complementary and synergistic. When additional measures are implemented, the marginal benefit of each new program diminishes because the baseline it is working from has already been reduced by prior strategies. This means that if one implements 11 strategies, with each estimated to reduce vehicle trip making by 10%, one would not expect a 110% overall reduction in vehicle trip making (rather, it would be 69%, see methodology below). To prevent this kind of result, the CAPCOA methodology includes maximum reduction levels associated with each category of strategies, based on existing research. For example, parking policy and pricing strategies can achieve a maximum reduction of 20%. This is separate from the impact of other TDM strategies, which can achieve a combined maximum reduction of 15%.

In general, the calculation is as follows[7]: (note: all reductions are expressed as a % reduction of trips, with all percentages expressed as decimals)

- Trip Reduction Estimate = 1 – (1 – Unbundle Parking) * (1 – Transit Pass Subsidy)
- Estimated maximum VMT reductions: Unbundle Parking (13%), Transit Pass Subsidy (20%)
- Trip Reduction Estimate = 1 – (1 – .13) * (1 – .20)

Multiple trip reduction components are calculated in a similar way. For instance:

- Trip Reduction Estimate = 1 – (1 – TDM #1) * (1 – TDM #2) * (1 – TDM #3) * …etc.

Not all of the recommended strategies are included in CAPCOA's research providing specific trip reduction percentages. In instances where this occurs, citations to other relevant literature and best practice research that highlights the respective supporting ability to reduce trips are provided.

Active-1: Enhance Walking Conditions

TDM Measure: Provide streetscape improvements to encourage walking to and from site.

Category (A, B, C and D)

- **One Point** for ensuring the streetscape surrounding the site meets all City requirements and neighborhood streetscape plans; and providing at least five additional streetscape elements identified by City staff that contribute to VMT reduction or increased walking. In order to satisfy this measure a project should minimize all barriers to pedestrian access and interconnectivity. Physical barriers such as walls, landscaping, and slopes that impede pedestrian circulation should not be provided.

Monitoring and Reporting: Before construction, City staff should provide comments on the project plans to the developer/property owner indicating recommended streetscape measures at the site to enhance walking conditions. Department of City Planning staff should confirm the implemented streetscape measures meet the specifications of approved plans during a pre-occupancy inspection of the site. City staff should confirm, at a minimum of every three years, that the walking conditions meet specified standards.

Justification: Providing a pedestrian access network that internally links areas of a project site encourages people to walk instead of drive. CAPCOA calculates a vehicle miles traveled (VMT) reduction of 0.0-2.0% for pedestrian network improvements. Maximum reductions are most likely to occur if the project has good pedestrian connections both on the site and to a larger off-site network.

[7] For further explanation on variables involved in trip reduction calculations, refer to Chart 6-2 of the CAPCOA Quantifying Greenhouse Gas Mitigation Measures Handbook, August 2010.

Active-2: Bicycle Parking

TDM Measure: Provide secure bicycle parking at the applicable rates prescribed below. Short-term spaces, such as inverted-u racks or post and ring installations, should be weather protected, sturdy, and well anchored. Short-term spaces typically meet the needs of shoppers or visitors and are used for a couple of hours at a time. Long-term spaces, such as bike lockers or bike cages, should be fully sheltered from weather elements and provide a form of access control such as keys or smart cards. Long-term spaces are typically designed to meet the needs of commuters or residents who require storing their bike safely for an entire day or longer. Spaces should meet all City requirements and reflect design best practices such as those identified by the Association of Pedestrian and Bicycle Professionals (APBP).[8]

Category (A)

- **One Point** for providing one long-term bicycle parking space for every 3,750 square feet of occupied floor area, and one short-term bicycle parking space for every 750 square feet of occupied floor area; or five percent of the maximum number of visitors, which the project is designed to accommodate, whichever is less.

Category (B)

- **One Point** for providing one long-term bicycle parking space for every 2,500 square feet of occupied floor area, and two short-term bicycle parking spaces for every 25,000 square of occupied floor area.

Category (C)

- **One Point** for providing one long-term bicycle parking space for each dwelling unit and one short-term bicycle parking space for every 15 dwelling units up to 20 total short-term spaces.

Category (D)

- **One Point** for providing one long-term bicycle parking space for every 5,000 square feet of occupied floor area, and one short-term bicycle parking space for every 25,000 square of occupied floor area up to 10 total short-term spaces.

Monitoring and Reporting: Department of City Planning staff should confirm that the installed spaces meet the design requirements stated above during a pre-occupancy inspection of the site. The property owner should include up to date photos of the bicycle parking demonstrating that the spaces are in good condition and accessible to tenants/residents upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the parking meets specified standards.

Justification: Adequate bicycle parking encourages bicycle ridership and a shift from other modes by offering riders the same level of trip-end security as motorists enjoy with designated parking. CAPCOA does not specifically quantify the trip reduction benefits of bicycle parking; however, it is included as a supporting element of "Improved Design of Development," which

[8] APBP Essentials of Bike Parking: Selecting and Installing Bike Parking that Works (2015)

has a calculated trip reduction of 3.0-21.3%. The Center for Clean Air Policy (CCAP) Guidebook attributes a 1%-5% VMT reduction to the overall use of bicycles, of which 0.625% can be attributed to bicycle parking.[9]

Active-3: Bicycle Repair Station

TDM Measure: Provide an on-site bicycle repair station with adequate tools.

Category (A, B, C and D)

- **One Point** for providing a bicycle repair station on-site in a covered area such as a bicycle storage room or garage. Tools and supplies should include, at minimum, those needed to fix a flat tire, adjust a chain, and performing other basic maintenance. Available tools should include, at minimum, a bicycle pump, wrenches, a chain tool, tire levers, hex keys/Allen wrenches, screwdrivers, and spoke wrenches. Although not required, vending machines selling items such as bike tubes, patch kits, lights, locks, hand warmers, and other bicycling gear can be paired with repair stations.

Monitoring and Reporting: Department of City Planning staff should confirm that the installed repair station(s) meets the design requirements stated above during a pre-occupancy inspection of the site. The property owner should include up to date photos of the repair station(s) demonstrating that all tools are in place, properly maintained, and accessible to tenants/residents upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the repair station(s) meets specified standards.

Justification: On-site repair stations support the ongoing use of bicycles as a reliable mode of alternative transportation. CAPCOA does not specifically quantify the trip reduction benefits of repair stations, as they have little impact when implemented alone.

Active-4: Bicycle Share Membership

TDM Measure: Offer Relay Bike Share membership to employees and/or residents. An additional point awarded if the site is within 1,000 ft. of an existing or planned Relay Hub.

Category (A and B)

- **One Point** for proactively offering complimentary annual Relay Bike Share membership to each employee, at least once annually. New employees should be offered membership upon hire if an internal request deadline has passed.
- **Two Points** for providing the above if the site is within 1,000 feet of an existing or planned Relay Hub.

Category (C)

[9] http://www.ccap.org/safe/guidebook/guide_complete.html

- **One Point** for proactively offering complimentary annual Relay Bike Share membership to each dwelling unit, at least once annually. New residents should be offered membership upon move in if an internal request deadline has passed.
- **Two Points** for providing the above if the site is within 1,000 feet of an existing or planned Relay Hub.

Monitoring and Reporting: The property owner should submit copies of invoices for Relay Bike Share memberships and any informational materials that describe available bikeshare benefits that have been provided to employees/residents during submittal of their annual Monitoring and Reporting Update.

Justification: Bikeshare provides flexibility and options for existing cyclists while introducing bicycling as a viable form of transportation to new users. CAPCOA does not specifically quantify the trip reduction benefits of bikeshare, as it has little impact when implemented alone. The effectiveness of bikeshare is dependent on locations and context; bikeshare stations work best in densely populated areas with existing infrastructure for bicycling. A study on bikeshare's impacts on active travel with data from the United States, Great Britain, and Australia reports that on average 60% of bikeshare trips replace sedentary modes of transport.[10] NACTO research finds that the willingness for someone to utilize bikeshare significantly declines beyond 1,000 feet or 5 minutes walking distance.[11]

Active-5:Changing Facilities

TDM Measure: Provide showers and lockers for active modes.

Category (A and B)

- **One Point** for providing at minimum one shower and at least six clothes lockers for every 30 long-term bike parking spaces.

Category (D)

- **One Point** for providing at minimum one shower and at least six clothes lockers.

Monitoring and Reporting: Department of City Planning staff should confirm that the changing facilities meet the design requirements stated above during a pre-occupancy inspection of the site. The property owner should include up to date photos of the changing facilities demonstrating that the showers and lockers are in good condition and accessible to tenants upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the facilities meet specified standards.

Justification: End of trip facilities with showers and changing rooms can encourage people to commute via bicycle, especially for employees that ride longer distances or have concerns about arriving to work sweaty from a bike ride. A policy brief from the California Air Resources

[10] http://atrf.info/papers/2015/files/ATRF2015_Resubmission_82.pdf

[11] https://nacto.org/wp-content/uploads/2015/09/NACTO_Walkable-Station-Spacing-Is-Key-For-Bike-Share_Sc.pdf

Board cites studies in which end of trip facilities, including showers at work places, increase the perceived comfort of bicycling and encourage shifts from other modes.[12] CAPCOA does not specifically quantify the trip reduction benefits of changing facilities, as they have little impact when implemented alone.

Active-6: Loaner Bicycles

TDM Measure: Provide on-site fleet of shared bikes for use of employees, residents, and/or guests.

Category (A and B)

- **One Point** for providing one shared use bicycle for every 25,000 square feet of occupied floor area up to a total of 25 shared bicycles. Additional long-term parking should be provided for these bicycles in a secure area such as a bicycle cage. It is encouraged that the property owner provide helmets, locks, lights, and baskets to facilitate the use of the bicycles.

Category (C)

- **One Point** for providing one shared use bicycle for every 30 dwelling units up to a total of six shared bicycles. Additional long-term parking should be provided for these bicycles in a secure area such as a bicycle cage. It is encouraged that the property owner provide helmets, locks, lights, and baskets to facilitate the use of the bicycles.

Monitoring and Reporting: Department of City Planning staff should confirm the provision of the shared bicycles during a pre-occupancy inspection of the site. The property owner should include up to date photos of the bicycles demonstrating that all components are properly maintained and accessible to tenants/residents upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the bicycles meet specified standards.

Justification: Loaner bicycles can provide a flexible alternative to driving alone at places of work and residential buildings. While unlikely to serve as a means of commuting like bikeshare that exists within a wider network, on-site loaner bicycles offer a viable alternative for midday trips such as lunch or meetings at offices and for errands at residential sites. CAPCOA does not specifically quantify the trip reduction benefits of loaner bicycles, as they have little impact when implemented alone.

Carshare-1: Car Share Membership

TDM Measure: Provide membership to a carshare service for employees and/or residents. In order to satisfy this measure the property owner should cover the annual membership and any one-time application fees for a carshare program. The property owner should not be held accountable for reimbursing users the cost of any hourly or daily usage charges.

[12] https://www.arb.ca.gov/cc/sb375/policies/bicycling/bicycling_brief.pdf

Category (A, B and D)

- **One Point** for proactively offering complimentary annual carshare membership to each employee, at least once annually. New employees should be offered membership upon hire if an internal request deadline has passed.

Category (C)

- **One Point** for proactively offering complimentary annual carshare membership to each resident, at least once annually. New residents should be offered membership upon move in if an internal request deadline has passed.

Monitoring and Reporting: The property owner should submit copies of invoices for carshare memberships and any informational materials that describe available carshare benefits that have been provided to employees/residents during submittal of their annual Monitoring and Reporting Update.

Justification: Carshare enables people to forego car ownership and thereby drive less overall. Workplace carshare provides an option for business/midday trips for alternative mode commuters and helps supplement guaranteed ride home programs, whereas residential based carshare can substitute entire household based trips. CAPCOA calculates a VMT reduction of 0.4-0.7% for carshare programing.

Carshare-2: Carshare Parking

TDM Measure: Provide carshare parking. Additional point awarded for providing recommended amount of spaces.

Category (A)

- **One Point** for providing at least one reserved parking space for a carshare vehicle.
- **Two Points** for providing one carshare space for each 30,000 square feet of occupied floor area, with a minimum of three carshare spaces.

Category (B)

- **One Point** for providing at least one reserved parking space for a carshare vehicle.
- **Two Points** for providing one carshare space for each 30,000 square feet of occupied floor area, with a minimum of two carshare spaces.

Category (C)

- **One Point** for providing at least one reserved parking space for a carshare vehicle.
- **Two Points** for providing one carshare space for every 80 dwelling units, with a minimum of two carshare spaces.

Category (D)

- **One Point** for providing at least one reserved parking space for a carshare vehicle.
- **Two Points** for providing one carshare space for each 50,000 square feet of occupied floor area, with a minimum of two carshare spaces.

Monitoring and Reporting: Department of City Planning staff should confirm that the number of required space are provided during a pre-occupancy inspection of the site. The property owner should include up to date photos of the carshare spaces and any accompanying signage to demonstrate that they are in good condition and accessible to tenants/residents upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the parking meets specified standards.

Justification: Carshare enables people to forego car ownership and thereby drive less overall. Providing on-site carshare parking increases program accessibility. CAPCOA calculates a VMT reduction of 0.4-0.7% for carshare programing.

Delivery-1: Delivery Support Amenities

TDM Measure: Provide staffed reception desk, delivery lockers, or other amenities.

Category (A, B, and C)

- **One Point** for providing at least two of the following: lockers for delivered packages, staffed reception desk, temporary storage for package deliveries, laundry deliveries, or other deliveries and/or temporary refrigeration for grocery deliveries. Automated package storage lockers such as Parcel Pending are recommended.

Monitoring and Reporting: Department of City Planning staff should confirm the installation of the aforementioned amenities during a pre-occupancy inspection of the site. The property owner should include up to date photos of the amenities demonstrating that all components are properly maintained and accessible to tenants/residents upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the amenities meet specified standards.

Justification: Delivery support amenities may reduce VMT through reducing the number of trips, such as shopping, that may otherwise have been made by a single occupant vehicle. CAPCOA does not specifically quantify the trip reduction benefits of delivery support amenities, as they have little impact when implemented alone.

Family-1: On-Site Childcare

TDM Measure: Provide childcare services on-site.

Category (A, B and C)

- **Two Points** for providing a childcare facility on site that complies with all state and City requirements.

Monitoring and Reporting: Before construction the developer/property owner should identify the location of the childcare space and submit plans for City staff to ensure that the facility will meet any applicable State and City requirements. Department of City Planning staff should confirm the constructed facility meets the specifications of approved plans during a pre-occupancy inspection of the site. The property owner should submit a letter from the contracted

childcare provider that includes a description of the facility's operations (days of week and hours of operation, level of enrollment, etc.) and contact information of all applicable parties upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the facility is in good condition and meets all standards specified in the project plans.

Justification: Parents and caregivers with young or school age children may have less flexible travel options if they need to drop-off and/or pick up their kids at school or after school activities. Provision of on-site childcare may reduce VMT related to drop-off/pick-ups of children, in addition to making it easier for parents and caregivers to shift their daily commutes to alternative modes. CAPCOA does not specifically quantify the trip reduction benefits of on-site childcare, as no literature on its effects was identified.

Family-2: Family TDM Amenities

TDM Measure: Provide storage near carshare parking spaces for car seats and strollers. Provide shared cargo bike(s) and collapsible shopping/utility cart(s).

Category (C)

- **One to Two Points** for providing the following amenities (one point each).
  - Storage for car seats and strollers in a secure location. Car seat storage should be provided near the location of on-site carshare parking spaces.
  - At least one cargo bike and one collapsible shopping/utility cart for shared use of residents. It is recommended that cargo bikes are available to residents on an hourly basis through an advanced reservation system.

Monitoring and Reporting: Department of City Planning staff should confirm the installation and provision of the aforementioned amenities during a pre-occupancy inspection of the site. The property owner should include up to date photos of the amenities demonstrating that all components are properly maintained and accessible to residents upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the amenities meet specified standards.

Justification: Providing family TDM amenities may reduce VMT by reducing the challenges residents face in making trips without a private automobile. CAPCOA does not specifically quantify the trip reduction benefits of family TDM amenities, as no literature on its effects was identified.

Family-3: Affordable Housing

TDM Measure: Provide affordable housing units on-site as specified.

Category (C)

- **One Point** for providing between five and 10 percent on-site affordable housing.

- **Two Points** for providing greater than 10 percent but less than or equal to 25 percent on-site affordable housing.
- **Three Points** for providing greater than 25 percent but less than or equal to 50 percent on-site affordable housing.
- **Four Points** for providing greater than 50 percent on-site affordable housing.

Monitoring and Reporting: The Office of Housing and Community Development should monitor and require occupancy certification of affordable units during the annual Monitoring and Reporting Update process. The Office of Housing and Community Development should maintain the right to require the tenant or designated representative of an affordable unit to verify their level of income on an annual basis.

Justification: Lower income families tend to have lower levels of vehicle ownership, and thus lower levels of VMT. Income has a statistically significant effect on the probability that a commuter will take transit or active modes to work. CAPCOA calculates a VMT reduction of 0.04% for each percent unit mix of below market rate housing. For example, a residential project with 25% affordable units would represent a 1% reduction in VMT, 100% affordable units would result in a 4% reduction in VMT.

Info-1: TDM Marketing

TDM Measure: Provide employees and/or residents with information on available travel options.

Category (A and B)

- **One Point** for providing TDM promotions and welcome packets. TDM promotions should encourage alternative modes through methods such as targeted messaging and communications campaigns, incentives, giveaways and competitions. Welcome packets should be provided to all new employees with information on alternative transportation options for accessing the project site and details on any transportation benefits offered. The packet should provide options for major employee commute origins including specific transit routes, bicycle routes, and carpool options.
- **Two Points** for providing the above and personal consultation to each new employee.
- **Four Points** for providing the aforementioned measures and enrolling all employees in a Transportation Management Platform (TMP) application such as Luum or RideAmigos, which offer commute planning functionality, parking management, and transit information online and through mobile applications. TMPs gamify commute behavior by actively logging how people travel to work and using this information to provide incentives, start friendly competition, or raise awareness about these decisions and the associated financial, environmental and health impacts.

Category (C)

- **One Point** for providing TDM promotions and welcome packets. TDM promotions should encourage alternative modes through methods such as targeted messaging and communications campaigns, incentives, giveaways and competitions. Welcome packets

should be provided to all new residents with information on alternative transportation options for accessing the project site and details on any transportation benefits offered. The packet should provide options for major destinations such as nearby transit centers and shopping including specific transit and bicycle routes.

- **Two Points** for providing the above and personal consultation to each new resident.
- **Four Points** for providing the aforementioned measures and enrolling all dwelling units in a Transportation Management Platform (TMP) application such as Luum or RideAmigos, which offer commute planning functionality, parking management, and transit information online and through mobile applications. TMPs gamify commute behavior by actively logging how people travel and using this information to provide incentives, start friendly competition, or raise awareness about these decisions and the associated financial, environmental and health impacts.

Monitoring and Reporting: The property owner should submit copies of all promotional materials and welcome packets distributed to employees/residents as part of their annual Monitoring and Reporting Update. If implemented, the contact information of a TDM coordinator who conducts personal consultations and invoices for a Transportation Management Platform should be included.

Justification: Sharing of information and marketing are vital components of successful trip reduction programs. Implementing TDM measures without complementary marketing and outreach may result in lower VMT reductions. CAPCOA calculates a VMT reduction of 0.8-4.0% for TDM marketing. Efforts accounted for in these estimated reductions include new employee/resident orientations of TDM and alternative mode options, event promotions, and publications.

Info-2: Wayfinding and Signage

TDM Measure: Provide directional signage for TDM amenities.

Category (A, B, C, and D)

- **One Point** for providing multimodal wayfinding signage at key locations internally and externally that directs employees, residents, tenants, and visitors to all of the following transportation options (if applicable).
  - Bicycle Parking
  - Bicycle Amenities (such as changing facilities and repair stations)
  - Bike Share
  - Car Share
  - Carpool/Vanpool pick-up/drop-offs
  - Delivery Amenities (such as package storage lockers)
  - Shuttle Stops
  - Taxi Stands/TNC pick-up/drop-offs

- Transit Stops

Monitoring and Reporting: Department of City Planning staff should confirm that the installed wayfinding meets the design requirements stated above during a pre-occupancy inspection of the site. The property owner should include up to date photos of the wayfinding demonstrating that all signage is in place, properly maintained, and visible to tenants/residents upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the wayfinding meets specified standards.

Justification: Providing signage or wayfinding to direct people to nearby transit services, bicycle routes, and alternatives encourages the use of trip reduction measures. Establishing a wayfinding system throughout a project site, or near key access points, provides clear directions to key destinations and encourages the use of implemented TDM amenities. CAPCOA does not specifically quantify the trip reduction benefits of wayfinding and signage, as it has little impact when implemented alone.

Info-3: Real-Time Information

TDM Measure: Provide monitors that display travel options and real-time transit schedules.

Category (A, B, C and D)

- **One Point** for providing real-time transportation information displays, such as large screens or monitors, in prominent locations (entry/exit areas, lobbies, elevator bays) that provide up to date transit arrivals, departures, and alternative options. At minimum, a project should include a screen at each major entry/exit displaying transit arrival and departures for nearby transit routes (within 0.25 miles for bus routes and within 0.5 miles for MARTA stations), availability and location of carshare vehicles and bikeshare, and the approximate walking times to those locations.

Monitoring and Reporting: Department of City Planning staff should confirm that the installed display(s) meets the design requirements stated above during a pre-occupancy inspection of the site. The property owner should include up to date photos of the display(s) to demonstrate that all components are in place, properly maintained, and visible to tenants/residents upon submittal of their annual Monitoring and Reporting Update. City staff should conduct a site visit, at minimum of every three years, to confirm that the display(s) meet specified standards.

Justification: Real-time information displays support on-the-go decision-making and help to mitigate reliability concerns with alternative modes. CAPCOA does not specifically quantify the trip reduction benefits of wayfinding and signage, as it has little impact when implemented alone.

Info-4: Georgia Commute Options Partnership

TDM Measure: Partake in free programs provided by Georgia Commute Options for employers.

Category (A and B)

- **One to Six Points** for partaking in free programs provided by Georgia Commute Options for employers. One point will be awarded for every two programs successfully implemented. The twelve available programs are listed below:
    4. **Overall Program Consultation:** One-on-one development of a commute options plan that meets the needs of an organization and its employees.
    5. **Reporting Program Results:** Capturing and reporting information specific to a company, including direct financial savings to employees, vehicle miles of travel reduced and tons of air pollution reduced.
    6. **Onsite Events:** Presentations and/or tabling events about commute options, assistance and resources available to employees.
    7. **Financial Incentives:** Monetary invectives to motivate commuters to switch from driving alone.
    8. **Alternative Work Arrangement Consulting:** Expert consulting to start or expand telework, compressed workweek or flexible work hours program.
    9. **Pre-tax Benefits**: Program through IRS that reduces employee commute costs up to 1/3 for vanpool, transit, bicycling and saves employers payroll taxes.
    10. **Employee Commute Survey:** Customized survey to determine how employees are getting to work and their level of interest in alternatives and services offered.
    11. **Commuter Ridematching and Guaranteed Ride Home:** Assistance finding carpool or vanpool partners who live and work near each other, plus up to five free rides home each year for registered employees who use commute alternatives when unexpected events cause them to leave work earlier or later than usual.
    12. **Employer Recognition:** Public relations exposure in local media and annual awards program spotlighting employer's positive impact on commute options.
    13. **Employer Education Series:** Webinars featuring subject matter experts with guidance on specific commute options topics.
    14. **Case Studies:** Summaries showing how similar employers have implemented successful commute options programs and results achieved.
    15. **Relocation Commute Planning:** Special assistance when an employer moves, providing employees with information about the best commute options available to get them to their worksite.

Monitoring and Reporting: Georgia Commute Options should provide confirmation that the respective employer/property owner has implemented the number of programs noted in the annual Monitoring and Reporting Update.

Justification: This measure covers a wide array of supplementary efforts to boost the efficacy of TDM measures. Although this item cannot be directly related to best practice trip reduction research, given its local specificity, many components relate to Commute Trip Reduction Programs included in CAPCOA analysis, which includes carpool and vanpool assistance,

ridematching assistance, and program consultation. CAPCOA calculates a VMT reduction of 1.0-6.2% for Commute Trip Reduction Programs.

Parking-1: Unbundle Parking

TDM Measure: Detach the cost of parking from rents or leases.

Category (A and B)

- **Two Points** for detaching the cost of all parking spaces from all tenant lease or purchase fees for the life of the project. Unbundled spaces should be leased or sold separately so that tenants have the option of renting or buying a space at an additional cost.

Category (C)

- **Two Points** for detaching the cost of all parking spaces from all residential lease or purchase fees for the life of the project. No units should be marketed with the amenity of "free parking" or similar terms. Unbundled spaces should be leased or sold separately so that residents have the option of renting or buying a space at an additional cost, thus presenting a cost savings by opting out of renting or purchasing a parking space.

Monitoring and Reporting: The property owner should submit copies of all informational materials about unbundled parking and current parking rates as part of their annual Monitoring and Reporting Update.

Justification: Unbundling separates parking from property costs, requiring those who wish to access a parking space to do so at an additional marginal cost. Unbundling is one of the most effective methods of discouraging SOV travel as it reflects the true cost of parking which is usually "hidden" in rents. CAPCOA calculates a VMT reduction of 2.6-13% for unbundling parking.

Parking-2: Parking Cash Out

TDM Measure: Where free parking is provided, give employees the option to receive the cash value of free parking in-lieu of a parking space. Although not required, cash out works best in conjunction with unbundling as it provides a market signal to forgo subsidizing parking and cashing out employees instead. Unbundling can help to implement a cash out program as it establishes a per stall price point.

Category (A and B)

- **Two Points** for promoting and providing all employees eligible for subsidized or free parking with the choice of forgoing a parking space in exchange for a cash payment equivalent to the cost borne by the employer for providing the space.

Monitoring and Reporting: The property owner should submit copies of all informational materials about cash out and current rates for all employers at the site as part of their annual Monitoring and Reporting Update.

Justification: Parking cash out allows employees to forgo subsidized or free workplace parking in exchange for the cash equivalent of the cost of the space covered by the employer. Like unbundling, cash out can be an extremely effective strategy as it helps to highlight the true cost of parking and provides financial incentive to shift to, or maintain use of alternative modes. CAPCOA calculates a VMT reduction of 0.6-7.7% for parking cash out.

Parking-3: Price Parking

TDM Measure: Parking charged at hourly or daily rates, no weekly, monthly, or annual permits provided. This may include explicitly charging employees (and customers) for parking, implementing market or dynamic rate pricing, and validating for invited guests only.

Category (A and B)

- **Two Points** for pricing all available parking at hourly or daily rates. In order to meet this requirement weekly, monthly, and or annual parking passes may not be made available.

Monitoring and Reporting: The property owner should submit copies of all informational materials about parking pricing and current rates as part of their annual Monitoring and Reporting Update.

Justification: Pricing parking at or above market rates provides a clear signal to employees to consider shifting to alternate modes. Workplace parking pricing is most effective when nearby on-street spaces are priced at market rates or regulated with residential parking permits. CAPCOA calculates a VMT reduction of 0.1-19.7% for parking cash out.

Shared-1: Vanpool Program

TDM Measure: Provide vanpool services for employees.

Category (A and B)

- **Two Points** for providing property owner or employer sponsored vanpools providing service between the site and locations where employees live. In order to meet this requirement the program must purchase or lease vans for employee vanpool use and pay for the mileage and maintenance of the vehicles.

Monitoring and Reporting: The property owner should submit copies of invoices for vanpool expenses and any informational materials distributed that describe the program during submittal of their annual Monitoring and Reporting Update.

Justification: Vanpooling is a proven and effective means of reducing commuter trips. Vanpooling is attractive to commuters because it can save both time and money due to shared travel costs. Vanpools are particularly effective in rural or suburban areas where a group of under 15 people live in relative proximity and travel to the same worksite. CAPCOA groups vanpool programs with shuttle programs for a combined calculated VMT reduction of 0.3-13.4%. Although it may be beneficial to provide both programs, it is not required.

Shared-2: Rideshare Matching

TDM Measure: Facilitate carpooling by matching potential riders.

Category (A and B)

- **One Point** for providing ride matching through online services, such as Zimride, that connects employees through a secure network to post and search for shared rides.

Monitoring and Reporting: The property owner should submit copies of invoices for a ride matching platform and provide any informational materials distributed that describe the program during submittal of their annual Monitoring and Reporting Update.

Justification: Rideshare matching eases the burden of locating carpool partners by connecting employees who live and work in close proximity to each other and have similar work hours. For employees who live or work in areas that are not well served by public transit, ride matching offers significant potential to reduce trip generation. Rideshare matching falls under Commute Trip Reduction Programs, which CAPCOA calculates a VMT reduction of 1.0-6.2%.

Transit-1: Transit Subsidy

TDM Measure: Provide contributions or incentives towards the equivalent cost of a MARTA Unlimited Ride Monthly Pass for employees and/or residents.

Category (A and B)

- **One Point** for proactively offering contributions or incentives equivalent to 25% the cost of a MARTA Unlimited Ride Monthly Pass for each employee, at least once annually. New employees should be offered the subsidy upon hire if an internal request deadline has passed.
- **Two Points** for proactively offering contributions or incentives equivalent to 50% the cost of a MARTA Unlimited Ride Monthly Pass for each employee, at least once annually. New employees should be offered the subsidy upon hire if an internal request deadline has passed.
- **Three Points** for proactively offering contributions or incentives equivalent to 75% the cost of a MARTA Unlimited Ride Monthly Pass for each employee, at least once annually. New employees should be offered the subsidy upon hire if an internal request deadline has passed.
- **Four Points** for proactively offering contributions or incentives equivalent to 100% the cost of a MARTA Unlimited Ride Monthly Pass for each employee, at least once annually. New employees should be offered the subsidy upon hire if an internal request deadline has passed.

Category (C)

- **One Point** for proactively offering contributions or incentives equivalent to 25% the cost of a MARTA Unlimited Ride Monthly Pass for each dwelling unit, at least once annually.

New residents should be offered the subsidy upon move in if an internal request deadline has passed.

- **Two Points** for proactively offering contributions or incentives equivalent to 50% the cost of a MARTA Unlimited Ride Monthly Pass for each dwelling unit, at least once annually. New residents should be offered the subsidy upon move in if an internal request deadline has passed.
- **Three Points** for proactively offering contributions or incentives equivalent to 75% the cost of a MARTA Unlimited Ride Monthly Pass for each dwelling unit, at least once annually. New residents should be offered the subsidy upon move in if an internal request deadline has passed.
- **Four Points** for proactively offering contributions or incentives equivalent to 100% the cost of a MARTA Unlimited Ride Monthly Pass for each dwelling unit, at least once annually. New residents should be offered the subsidy upon move in if an internal request deadline has passed.

Monitoring and Reporting: The property owner should submit copies of invoices for transit pass contributions and any informational materials that describe available transit benefits that have been provided to employees/residents during submittal of their annual Monitoring and Reporting Update.

Justification: Subsidized transit passes provide a strong incentive to utilize transit and may be the catalyst for some residents or employees to forgo vehicle ownership entirely. CAPCOA calculates a VMT reduction of 0.3-20.0% for transit subsidies.

Transit-2: Shuttle Service

TDM Measure: Provide shuttle service for use of employees, residents, and/or guests. Employer based shuttles should serve key transit hubs, destinations relevant to the business, pertinent commercial centers, and relevant places of employee commute trip generation (during peak hours). Residential based shuttles should serve key transit hubs, commercial centers, and relevant civic destinations. The service should be provided free of charge to all residents, employees, tenants, and visitors.

Category (A and B)

- **Three Points** for providing the above mentioned service at 30 minute or less headways during peak hours and at one hour or less headways during off-peak hours from 8:00 a.m. to 7:00 p.m. on weekdays. Pick-up/drop-offs at places of employee commute trip generation (i.e. residential developments) may occur at a one hour frequency and are not required during off-peak hours.
- **Six Points** for providing the aforementioned service at 15 minute or less headways during peak hours and at 30 minute or less headways during off-peak hours from 8:00 a.m. to 7:00 p.m. on weekdays. Pick-up/drop-offs at places of employee commute trip

generation (i.e. residential developments) may occur at a one hour frequency and are not required during off-peak hours.

Category (C)

- **Three Points** for providing the aforementioned service at one hour or less headways from 8:00 a.m. to 7:00 p.m. on weekdays.
- **Six Points** for providing the aforementioned service at 45 minute or less headways on weekdays and at one hour or less headways on weekends from 8:00 a.m. to 7:00 p.m.

Monitoring and Reporting: The property owner should submit copies of the shuttle schedule, routes, contact information of the shuttle operator, and any informational materials distributed to promote the service during submittal of their annual Monitoring and Reporting Update.

Justification: Residential shuttles can replace vehicle trips to commercial centers and employer shuttles replace vehicle trips for commuting and lunchtime travel. Employer sponsored commuter shuttles are particularly effective in urban areas where there are concentrated nodes of employee residences that have adequate transit connections for last-mile connections. CAPCOA groups shuttle programs with vanpool programs for a combined calculated VMT reduction of 0.3-13.4%. Although it may be beneficial to provide both programs, it is not required.