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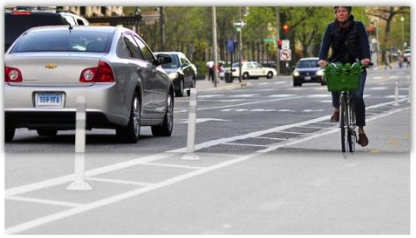

Mason Row

Transportation Management Plan (TMP)

July 2015

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WELLS + ASSOCIATES

Mason Row

Transportation Management Plan

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July 2015

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Section 1

Introduction

The City of Falls Church, commonly referred to as "The Little City," prides itself for being a tight-knit community with a high quality of life. With growth pressures occurring around the Northern Virginia region, the city is confronted with a challenge to accommodate growth while preserving the community's quality of life. The Falls Church Comprehensive Plan (2005) states that the City recognizes itself as an "urban village with a balance of uses," while identifying the need to preserve and enhance Falls Church as a "vibrant and lively enclave in Northern Virginia."

Noting that traveling from the City to locations outside of the City by automobile will remain a challenge, the Falls Church Comprehensive Plan within the Transportation Chapter recommends that "the City shall Pursue Transportation Demand Management Techniques to reduce traffic demand, particularly during peak travel periods." To that end, Transportation Demand Management (TDM) guidelines were developed to capitalize on the City's proximity to Metrorail and to encourage its residents, workers, and visitors to use alternative transportation. These guidelines recommend a city-wide commute mode share of 50% non-single occupancy vehicle (Non-SOV) for residents and 40% non-single occupancy vehicle for City of Falls Church workers by the year 2030. In order to achieve these performance goals, the City is working with developers to include TDM programs within their site development plans.

The Falls Church Comprehensive Plan identified three primary "opportunity areas" for redevelopment within the city:

- The West Broad Corridor,
- The intersection of Washington and Broad Streets, and
- The Washington Street Corridor.

According to the Falls Church TDM Guidelines, any development project exceeding minimum threshold amounts within either of the "opportunity areas" should be subject to a "Full" TDM Program. The properties that comprise Mason Row lie within the West Broad Corridor and exceed the minimum development threshold. This prompted the City of Falls Church staff to require that Spectrum Development LLC., the applicant, develop a "Full" TDM Program customized for Mason Row. The TDM guidelines propose that any "Full" TDM Program follow the following framework:

- Conduct a Transportation Impact Study;
- Set a non-SOV mode share goal based on results of the Transportation Impact Study;
- Identify TDM strategies that the developer will be responsible for incorporating into the development process and identify ongoing funding obligations;
- Identify a Transportation Coordinator on-site post occupancy;
- Produce a Transportation Management Plan;

- Participate in an annual travel survey; and
- Set aside cash contributions for two funds each year for the first fifteen years that a building is occupied.

The Mason Row Transportation Management Plan (TMP) proposes a TDM Program that follows the TDM Guidelines for the City of Falls Church. The purpose of this TMP is to present a framework for and identification of certain site-specific TDM strategies for the Mason Row Site. These TDM strategies are designed to achieve site specific goals established with the project to ensure that the proposed redevelopment at Mason Row is in-line with the Falls Church Comprehensive Plan and vision. Creation of this plan demonstrates a commitment by Spectrum Development LLC. to implement a "Full" TDM program for the Mason Row redevelopment project.

Section 2

What is TDM

Transportation Demand Management (or "TDM" for short) is a general term for strategies that result in more efficient use of transportation resources. Generally TDM strategies seek to influence travel behavior by:

- Improving the transportation options available to users;
- Providing incentives to change travel mode, time or destination;
- Improving land use accessibility;
- Educating, marketing, and communicating with commuters, employers, and residents about their available transportation options.

TDM programs are in operation across the United States, predominately in major metropolitan areas such as Los Angeles, San Francisco, New York, and Boston. Locally, many jurisdictions operate their own TDM Programs including neighboring Arlington and Fairfax Counties. These TDM programs generally seek through TDM to:

- Reduce traffic congestion,
- Reduce the costs for parking and road maintenance,
- Provide more transportation options (choices),
- Improve road safety,
- Improve air quality ,
- Mitigate environmental impacts,
- Improve quality of life,
- Spur economic development, and
- Promote healthy lifestyles.

The City of Falls Church Comprehensive Plan recognizes that TDM can be a tool which will allow reduction in traffic congestion, increase in accessibility, and improvement of air quality.

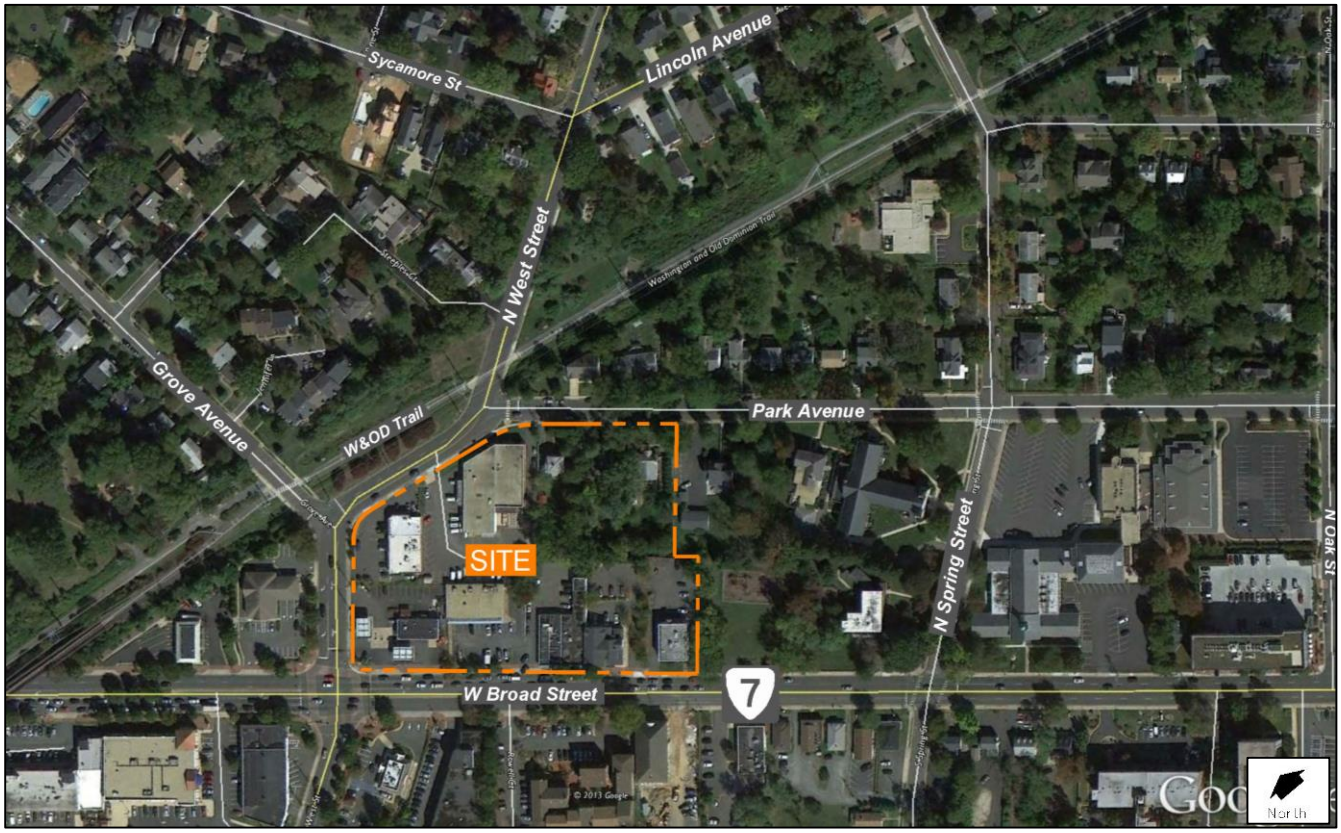
Section 3

Mason Row Project

3.1 Overview and Background

Mason Row (the "Project") is a 4.32-acre redevelopment site located within the western limits of the City of Falls Church bounded by West Broad Street (Route 7) to the South, North West Street to the West, and Park Avenue to the North. Notably, the Washington and Old Dominion (W&OD) trail, a major recreational trail for foot traffic and bicyclists, runs proximate to the site along the north side of North West Street. Figure 1 identifies the boundaries of the redevelopment site.

Figure 1: Mason Row Redevelopment Project Boundaries



Source: Mason Row Traffic Impact Study Submitted July 24, 2015

The project is zoned B-3 ("General Business District"), B-1 ("Limited Business"), and R-1 ("Medium Density Residential") and is currently occupied with a mix of commercial buildings, three homes, a gas station, strip retail, and a warehouse building. The applicant, Spectrum Development LLC. (Spectrum), proposes to raze the existing uses and subsequently redevelop the property with the following mix:

<u>Residential</u>

- 340 Residential Units

Non-Residential

- 145-room Hotel
- 63,147 GSF Retail/Restaurant space
- 42,394 GSF movie theater
- 5,317 GSF of office uses

In furtherance of the above proposed redevelopment project, rezoning and special exception (SE) applications have been filed by Spectrum in order to achieve the envisioned mix of uses for the propert*ies*. Additionally, a Traffic Impact Study and a Parking Reduction Report have been prepared for the site. Both of these reports advocate for establishment of a TDM program at Mason Row.

3.1.1 Traffic Impact Study (TIS)

The development process for the City of Falls Church requires that development applications be submitted along with an associated traffic study. The basis of the TIS includes a field reconnaissance of the area to determine access opportunities and constraints, traffic counts conducted at key intersections in the site vicinity, a review of the City's Comprehensive Plan, as well as conversations with City staff to ascertain planned transportation improvements/enhancements, and information from Spectrum including preliminary site concepts. The TIS for Mason Row was produced by Wells + Associates and submitted to the City on July 24, 2015.

The Transportation Impact Study references TDM strategies to ensure consistency with the overall Vision for Falls Church established within the Comprehensive Plan. The study references TDM as a means to take strategic advantage of the geographic location of the site near Metrorail, bus service, and the W&OD trail. The TIS also suggests a reasonable peak hour traffic reduction of 15% from residential and hotel components from TDM strategies.

3.1.2 Parking Reduction Request Memo

Imposing controls and gaining parking efficiencies can work to encourage the use of alternate modes of transportation and foster smart growth. Tightening parking supplies at concentrated residential and/or commercial sites, in conjunction with certain Transportation Demand Management (TDM) strategies have resulted in conditions shown to increase mode split. It is for this reason that a parking reduction request memo was submitted to the City of Falls Church.

A Parking Reduction Request Memo prepared by Wells + Associates and submitted to the City of Falls Church under that title requests that the amount of parking supply at the site be adjusted from 1,226 to 1,108 spaces, a 10% reduction. The Parking Reduction Memo justifies this adjustment request through shared parking spaces for compatible non-residential uses and TDM strategies specifically focused on reducing vehicle ownership for residents on-site.

3.2 Site Access

The City of Falls Church Comprehensive Plan States:

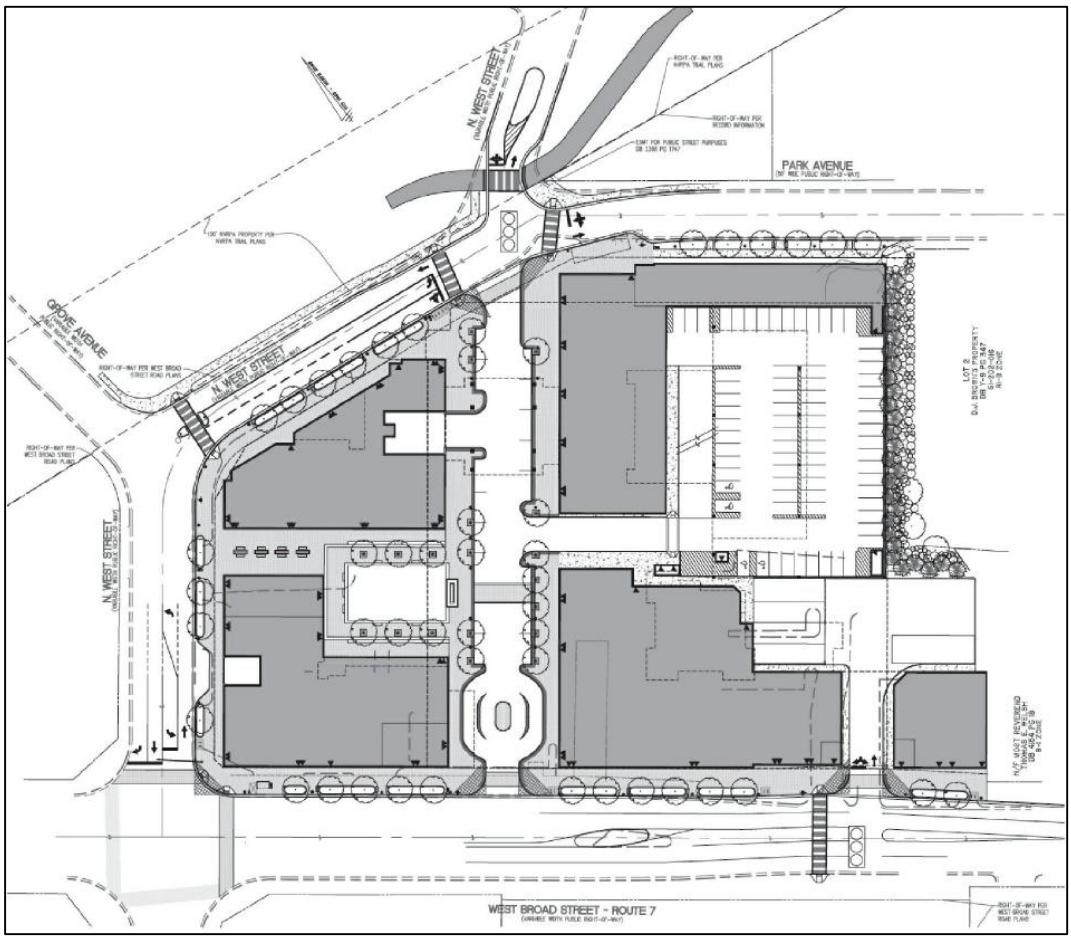
"All areas of the City will be highly accessible both internally and from the region via a range of public and private transportation alternatives, complementing the most common choice of transportation, the automobile. Neighborhoods, shopping, recreation, and schools will be linked in a variety of ways including public transit, pedestrian paths, and bikeways."

Consistent with the Comprehensive Plan, the proposed Mason Row site is well connected to the transportation network. Access to the site can be achieved by Vehicle, Metrorail, Bus, Biking, or Walking. Below is a discussion of the transportation networks connected to the redevelopment project.

3.2.1 Vehicular Access

Regional access to the redevelopment site is provided via West Broad St. (Route 7), Washington St. (Route 29), and Interstate 66. Direct access to the redevelopment site will be through three vehicular entrances: Two entrances along West Broad St. and one entrance at the intersection of North West St. and Park Ave. These entrances can be seen within the Conceptual Site Plan for the redevelopment in Figure 2.

Figure 2: Concept Development Plan for Mason Row



Source: Mason Row Traffic Impact Study Submitted July 24, 2015

3.2.2 Transit Facilities and Services

Mason Row is strategically located within less than a mile from the West Falls Church Metrorail Station and less than 2 miles from the East Falls Church Metrorail Station. The property is also served by three (3) WMATA Metrobus routes which run adjacent to the site, the 28A, 28X, and 3T.

WMATA Metrorail Service

The WMATA Metrorail system is a heavy rail, regional, transportation network which connects major economic, employment, and residential areas in the region with fast, convenient service. The nearest Metrorail station to Mason Row is the West Falls Church Metrorail station which is about ¾ mile from the site, or about a 20 minute walk. Orange Line trains leave the station every 6 minutes during peak hour and every 12 to 20 minutes outside the peak hour. Mason Row is also within less than 2 miles of East Falls Church Metrorail Station which serves Orange and Silver Line trains. Both Orange and Silver Line trains leave the station every 6 minutes during peak hour and every 12 to 20 minutes outside the peak hour. Trains connect Falls Church directly with Downtown Washington D.C., Arlington, Tysons Corner, Merrifield, and Reston. Bus routes 28A, 28X, and 3T connect Mason Row directly to the West Falls Church Metrorail Station. Bus route 3T connects Mason Row to the East Falls Church Metrorail Station.

Bus Service

As stated above, Mason Row is currently served by three (3) WMATA Metrobus Routes: 28A, 28X, and the 3T. Bus stops for these three routes are located along West Broad St. (Route 7). Specifically, one bus stop at West Broad St. and Rowells Ct. is on the redevelopment site. A summary of each existing bus route is provided below:

- Metrobus 28A – Leesburg Pike Line. Metrobus 28A is one of the more important bus lines in Northern Virginia. Service connects Alexandria to Tysons Corner along Route 7. This service operates on 20 minutes intervals during Weekdays and Saturdays, and operates at 30 minute intervals on Sundays. Hours of operation on Weekdays spans 22 hours a day from 4AM to 2AM. Saturday service runs for 20 hours a day from 6AM to 2 AM. Sunday service operates 18 hours a day from 6 AM to 12 AM. Access to the 28A headed northbound is at the stop located on West Broad St. at Rowells Ct. Service headed southbound can be accessed through a bus stop across the street from the site located on West Broad Street at North West St.

- Metrobus 28X – Leesburg Pike Limited Line. Metrobus 28A's extensive service from Alexandria to Tysons can take up to 90 minutes from end-to-end. As an alternative, the Metrobus 28X operates the same stretch, with limited stops in between effectively reducing the end-to-end travel time by 30 minutes. The 28X operates only on morning and afternoon peak hours during weekdays. The nearest bus stop for the 28X are approximately a half mile walking distance from the site. The nearest northbound stop is on West Broad Street at Hancock Rd. and the nearest southbound stop is at West Broad Street at North Virginia Ave.

- Metrobus 3T – Pimmit Hills Metro. Metrobus 3T operates between Mclean Metrorail Station and East Falls Church through neighborhood streets. This bus route operates weekdays and Saturdays with an average of 30 minute intervals during the weekdays and hour intervals on Saturdays. The span of operations is from approximately 6:00 AM to 11:30 PM on weekdays and 6:30 AM to 11:30 PM on Saturdays. Access to the 3T headed northbound is at the stop located on-site at West Broad St. at Rowells Ct. Service headed southbound can be accessed by the bus stop located across the street from the site on West Broad Street at North West St.

3.3.3 Bicycling and Pedestrian Connections

Regional Bicycling and Pedestrian access to the site can be achieved through the W&OD trail located adjacent to the site which extends from Arlington County to Loudoun County. Bicycle lanes can be accessed within a mile of the site along Williamsburg Boulevard which transitions into North West Street. Sidewalks are generally provided along the roadways in the immediate area of the subject site. As shown in Figure 3, sidewalks are located on both sides of West Broad Street and Park Avenue, and along the south and east sides of West Street. The redevelopment plan also includes enhancements to the current pedestrian network as can be seen within the Concept Development Plan in Figure 2.

Figure 3: Sidewalks and Bike Lanes adjacent to Mason Row Development Site.

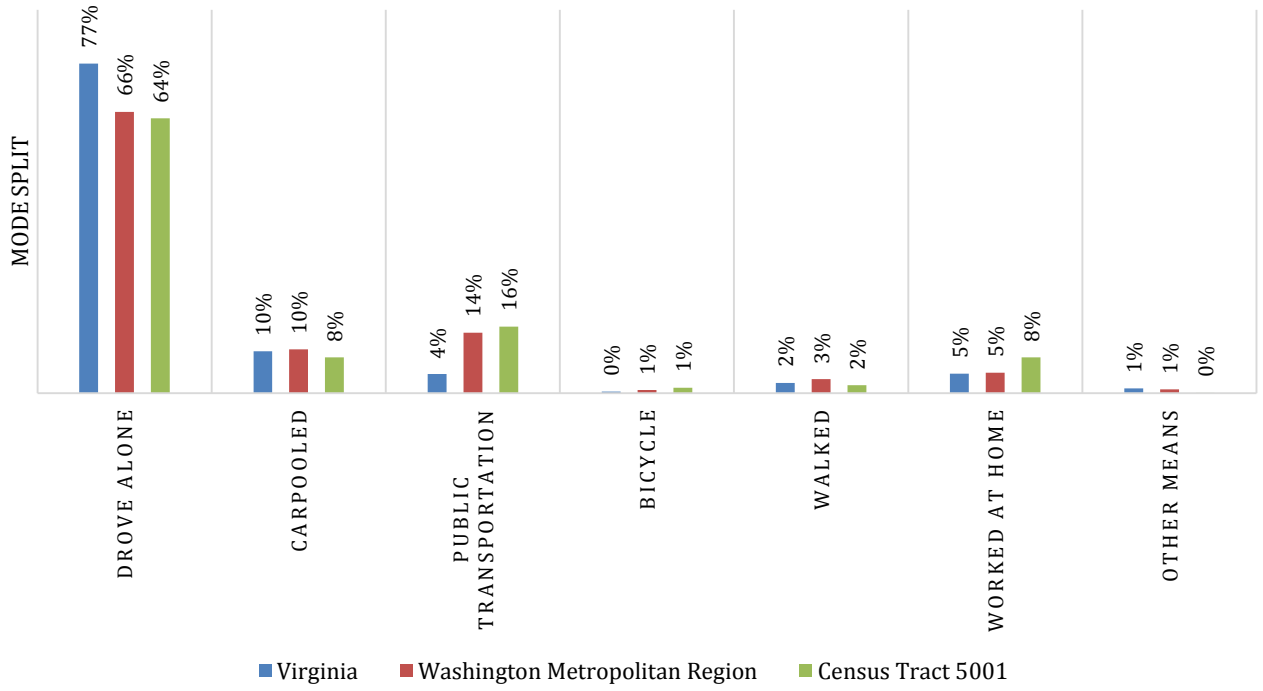
Source: Mason Row Traffic Impact Study Submitted July 24, 2015

3.2.4 Existing Mode Split

The strategic location of Mason Row near Metrorail, frequent bus service, and bicycle/pedestrian amenities make Mason Row an attractive location for multi-modal

commuting even without a TDM program in place. Figure 4, compares American Community Survey (ACS) 2013 Mode Split Estimates for the Mason Row Census Tract with that of the Metropolitan Area as well as the State of Virginia. As this graph reveals, the Non-SOV mode split for the Census Tract is 36%, which is higher than both the Region and the State.

Figure 4: Mode Split Comparison



Source: 2009-2013 American Community Survey 5-Year Estimates – Table B08301: MEANS OF TRANSPORTATION TO WORK - Universe: Workers 16 years and over

3.4 Performance Goals

The TDM Guidelines found within "Transit-Oriented Design Within and Beyond a Quarter Mile" prepared for the City of Falls Church recommends a framework for implementing TDM in the City. As part of the framework, the guidelines suggest that a Non-SOV goal be set within the Traffic Impact Study (TIS). While mode split provides an accurate measurement of the effectiveness of the TDM program, it does not provide a complete assessment of the overall traffic impact a development is having on the adjacent road network. For example, a development may be creating many more vehicle trips than what was forecasted, while being in full compliance with the Non-SOV mode splits goal. In an effort to control traffic impacts on the road network, this TMP recommends establishing a trip reduction goal to complement the mode split goal. In addition, due to the parking reduction request for the site, it is recommended that the site adopt a third performance goal for parking reduction in order to ensure that adequate levels of parking are provided for residents/employees/visitors of the Mason Row redevelopment site. These goals are achievable at the redevelopment site through a mix of TDM strategies, parking management, and effective planning which proposes a dense, highly walkable, and mixed-use project.

3.4.1 Non-SOV Mode Split Potential

The Non-SOV Mode Split Potential for Mason Row was determined through the addition of the following two factors: (1) the impacts research revealed a "Full" TDM Program would have on mode split at Mason Row and (2) the existing mode split for the Census Tract encompassing Mason Row. Between these two factors, W+A estimates that the Non-SOV Mode Split Potential for Mason Row is at 47%. An explanation for how this figure was derived is outlined below.

The City's TDM Guidelines refer to research by the Federal Highway Administration (FHWA) regarding the mode split impacts of TDM programs at the site level. Table 1 is a summary of this research.

Table 1: Estimate on Net Mode Shift by TDM Strategy

TDM Program Strategy	Mode Shift With Moderate Transit
Support, Promotion, Information	1-3%
Alternative Commute Services	5-10%
Financial Incentives	5-15%
Combined Strategies	
With Free Parking	10-15%
With Paid Parking	15-20%

Source: USDOT FHWA: "Integrating Demand Management into the transportation Planning Process: A Desk Reference"

Based on the combination of strategies for a "Full" TDM Program, it is estimated that TDM will have a net mode split shift of between 10% and 20% at the site. This potential mode shift is on par with other developments comparable to Mason Row such as the Mosaic District in Merrifield which similar to Mason Row is located a mile from Metrorail's Orange Line. The Mosaic District development has operated a successful TDM program since 2013 and has achieved a residential mode split of 42% Non-SOV which according to American Community Survey 2013 estimates is about a net 12 percentage points higher than the Non-SOV mode split for the census tract it lies within.

Considering the existing mode split of 35% Non-SOV for the Census Tract that encompasses Mason Row noted in section 3.2.4, and an observed 12% mode split shift at a similar development, W+A estimates a potential non-SOV mode split of 47% for the Mason Row redevelopment site. The 47% Non-SOV mode split potential is set within Section 4.1 as the Non-SOV mode split goal.

3.4.2 Trip Reduction Potential

A trip reduction assessment was made for the Mason Row Development based on two factors: (1) An underestimation of internally captured trips by synergistic uses on site and

(2) A reduction in trips based on a "Full" TDM Program. Between these two reductions, W+A estimates that the Trip Reduction Potential for the site is around 25%. An explanation for how this figure was derived is outlined in the sections that follow.

Trip Generation Reduction Based on Mixed Use Synergies

Vehicle trips generated by the Mason Row redevelopment will be reduced as a result of the density, diversity of uses, and design associated with the project when considered as a whole. By providing a variety of uses within the redevelopment area, the number of external vehicle trips generated to/from the projects can be reduced due to the synergy among the various uses. The key to the success of mixed-use developments is this synergy among various land uses. Table 2 depicts what the National Cooperative Highway Research Program (NCHRP) considers to be the land use combinations that have the most synergy.

Table 2: On-site Support and Synergy in Mixed-Use Projects

Land Use	Degree of Support/Synergy			
	Residential	Hotel	Retail	Cultural/Civic
Office	••	•••••	••••	•••
Residential	•••	•••	••••	•••••
Hotel	•••••	•••	••••	••••
Retail	•••••	•••••	•••••	••••
Cultural/Civic	••••	•••••	•••••	•••

Notes: Bullets: • = very weak, •• = weak, ••• = moderate, •••• = strong, ••••• = very strong
Source: NCHRP Report 684, *Enhancing Internal Trip Capture Estimation for Mixed Use Developments*

The Mason Row redevelopment proposes a strong mix of residential, office, hotel, and retail uses. As a means to quantify the number of internally generated trips within a development, ITE developed a methodology and procedure as presented in the *Trip Generation Handbook.* However, this methodology is based on a limited data set and ITE has advised users to "collect additional data if possible." Internal synergy has traditionally been estimated using an established ITE methodology or has been based on a flat rate reduction set by the locality. An example is the VDOT Chapter 870 regulations which artificially limit the amount and type of synergy or internal capture applied to developments in the interest of providing a conservative analysis.

As a result, internal capture rates are typically inaccurate using ITE trip generation methodology alone. If an internal capture rate is too low, projects may be unfairly penalized by having to provide more than their fair share of transportation mitigation. If the rate is too high, an unfair burden is put on the public. Both cases can result in sub-optimal build out. In response to such concerns, the National Cooperative Highway Research Program (NCHRP)

developed a methodology to provide an improved estimate of trips generated in mixed-use developments. The research team was led by the Texas Transportation Institute (NCHRP Project 08-51). The team developed a classification system for mixed-use developments, an improved methodology for estimating internal trip capture, a data collection framework and methodology, and a spreadsheet estimation tool.

The NCHRP spreadsheet estimation tool has site-specific inputs that allow the tool to better assess trip generation for the mixed use site. The inputs the tool uses to generate these results include estimated trip generation based on the ITE Trip Generation Manual, land use mode splits for the various proposed uses, and the distance in feet between the uses on the site. The tool uses these inputs in combination with the synergies between proposed uses in order to calculate internal capture rates that better reflect the density, diversity of uses, and design of the development.

The NCHRP analysis described above was conducted to determine an improved estimate for trip generation on the site based on the proposed density, diversity of uses, and design. Trip Generation inputs were calculated based on ITE's 9th Edition *Trip Generation* for auto. To come up with an input for residential carpool size, transit and non-motorized (bike and walk) mode share, the mode split for the Mason Row census tract was used. Given the distance from transit and few adjacent uses, office, retail, cinema, and hotel transit/non-auto mode split was left at 0% to produce a conservative estimate. The Average Vehicle Occupancy (AVO) for office was set to 1.20 and 1.23 for retail based on ITE *Trip Generation* 5th edition. The results of the NCHRP were then compared to the most recent Trip Generation values for the site without the 25% pass-by trip reduction (included in Appendix A). A comparison of ITE Trip Generation Forecasts to NCHRP forecasts are summarized in Table 3. Exact inputs for the NCHRP analysis are included in Appendix B.

Table 3: Trip Generation Analysis: ITE vs. NCHRP

	AM Peak Hour			PM Peak Hour			Combined
	In	Out	Total	In	Out	Total	Total
ITE Forecasted Vehicle Trips	194	279	473	336	262	599	1072
NCHRP Forecasted Vehicle Trips	196	265	461	291	217	508	969
% Overall Trip Reduction Difference ITE Vs. NCHRP	-1%	5%	3%	15%	21%	18%	11%

As shown in Table 3, based on the levels of development proposed and the mix of uses associated with the Mason Row redevelopment, an approximate overall minimum 11% reduction in trips could be realized, even in the absence of a comprehensive TDM program.

Trip Reduction Potential based on TDM Program

As noted in Section 2, the establishment of a TDM program can have an impact on the number of trips generated by a site. While no two TDM programs will render the same effects (due to variations in population demographics, convenience of travel alternatives, etc.) general

research estimates the impact from a comprehensive TDM program to be around 10% to 15%.

The Environmental Protection Agency through the "Best Workplaces for Commuters Progress Report for 2004" noted that TDM programs equipped with financial incentives, services (such as guaranteed ride home, carpool matching, etc.), and informational campaigns appear to create a 15% mode shift away from drive-alone commuting. These findings were also reinforced by a study conducted by the Transit Cooperative Research Program (TCRP) which noted an average 16.4% reduction in SOV trips for TDM programs focused on financial incentives and disincentives. That same study found that TDM programs that focused only on the provision of enhanced travel alternatives themselves, such as vanpools, on average accomplished SOV trip reductions of about 8.5%. It is worth noting that these studies reference employer based trip reductions which are generally focused around the peak hour.

The combination of a 11% AM and PM peak hour trip reduction through site design introduced within Table 3 and a 10 to 15% peak hour trip reduction through a "Full" TDM Program allows us W+A to estimate a peak hour trip reduction potential for Mason Row at 25%. This value is later introduced within Section 4.1. as the overall peak hour trip reduction goal for the TDM Program at Mason Row.

3.4.3 Parking Reduction Potential

The Zoning Ordinance for the City of Falls Church allows Applicants to request a modification of off-street parking and loading requirements. In response to this Ordinance, W+A prepared a Parking Reduction Memo for Mason Row which established a rate for the site and justifies the acceptability of this rate.

The Parking Reduction Memo establishes that an overall reduction of 10% from existing parking rates is an acceptable parking reduction for the site. Justification for this rate for residential land uses was done through:

- Observing parking counts at existing multifamily properties which were similar to Mason Row,
- Identifying established parking ratios at adjacent jurisdictions to Falls Church,
- Distinguishing the proposed residential unit mix and typical parking patterns for each unit type,
- Recognizing available alternative transportation options on-site, and
- Distinguishing alternative vehicle parking proposed for the site.

Parking reductions for Non-residential uses were based on the ULI Shared Parking, 2nd Edition model and methodology. The overall 10% reduction in parking demand proposed by the Parking Reduction Memo was included in Section 4.1 as a performance metric for the site.

Section 4

TDM Program Elements

The TDM Guidelines for the City of Falls Church recommends a dual TDM program policy approach: one for larger developments, and another for smaller developments. Larger developments are encouraged to implement a "Full" TDM Program incorporating goal-setting, reporting, monitoring, and dedicated funding. Smaller projects are recommended to implement a "Light" TDM program which includes on-site and off-site TDM improvements. "Light" Programs are not expected to have goal-setting, reporting, monitoring, and dedicated funding components within their program.

The TDM Guidelines suggest that two conditions need to be met in order for the City to recommend a "Full" TDM Program. For one, the developments must be located within one of the three "Opportunity Areas" within the City:

- The West Broad Corridor,
- The intersection of Washington and Broad Streets, or
- The Washington Street Corridor.

Second, the development must be larger than the minimum threshold amounts in Table 4:

Table 4: Minimum Size Thresholds to Require "Full" TDM Program

Land Use Type	Minimum Size
Office	50,000 or more square feet of usable space
Retail	40,000 or more square feet of useable retail space
Industrial	150,000 or more square feet of useable industrial space
Residential	200 or more dwelling units
Mixed-Use	40,000 or more square feet of any combination of useable space including one or more of the previous uses, at the size applicable to that use.

Source: City of Falls Church: "Transit-Oriented Design within and Beyond the Quarter-Mile"

Given the location of Mason Row within the West Broad Corridor, and the size of the mixed-use development which exceeds the 40,000 square feet of useable space, Spectrum plans to implement a "Full" TDM Program. Prescribed within the Guidelines are TDM Tools that can be part of the "Full" TDM program for the site. A compilation of these tools are presented in Table 5.

Table 5: "Full" TDM Program Suggested Strategies

Strategy Type	Strategy
Infrastructure (On-Site)	Bicycle racks
	Bus stop/shelter with real time passenger information
	Sidewalks
	Capital Bikeshare capital costs
	Carshare parking
Infrastructure (Off-Site)	Intersection improvements
	Bicycle and Pedestrian to the site
Transit Operating	Cash contributions to fund local transit/bikeshare service
Tenant TDM Services (Information and Incentives)	Assignment of an on-site transportation coordinator
	Working with an employer TDM program
	Establishing a residential TDM Program
	Installation of information displays and Transit Screens
	Unbundle Parking (lease agreement)
	Providing free or reduced cost transit passes
	Parking cash out
Monitoring and Reporting	Surveys
	Annual Reports
Funding	Operating Fund
	Penalty Fund

Source: City of Falls Church: "Transit-Oriented Design within and Beyond the Quarter-Mile"

The Mason Row TDM program has been designed to reflect not only those specific program elements listed in the Guidelines, but also takes advantage of the compact mixed-use nature of the redevelopment itself, the location of frequent and reliable bus service, pedestrian and bicycle facilities, as well as a reduction in parking supply. These elements, along with certain other program elements, are described in this chapter.

4.1 Mason Row TDM Program Goals and Objectives

Based on performance goals for the site described in Section 3.4, the following performance measures for the Mason Row TDM program are attainable and meet the intent of the City's TDM Guidelines:

- Reduce the number of peak hour trips generated by residential and office uses from projected ITE Trip Generation amounts by 25%,
- Increase the non-SOV mode share for the site as a whole to 47%, and
- Reduce parking demand for the site by 10%.

In order to achieve such goals, a number of TDM program elements, in addition to certain design elements, should be considered.

The following sections outline the strategies and infrastructure to be implemented as part of the TDM Program specific to Mason Row. Based on national research, best practices and

proven results these strategies together with design elements and a reduction in parking supply are intended to encourage greater use of sustainable transportation modes than might otherwise occur at the subject redevelopment site.

4.2 Design Elements

Site design features supportive of TDM strategies will be implemented as part of the overall holistic design of the Mason Row redevelopment site. Such features typically include the following:

- Bus shelters,
- Secure and safe bicycle storage at employment, retail and residential locations,
- Pedestrian and bicyclist system connectivity with adjacent sites and other paths,
- Business Center.

The Mason Row redevelopment site will include design elements to further the use of multimodal transportation options. Table 6 provides a checklist summarizing those specific design elements to be incorporated into the Mason Row redevelopment site as reflected in the submitted Concept Development Plan.

Table 6: TDM Supportive Design Elements – Mason Row

		Provided	
Design Element		Yes	No
Development Plan			
- The plan provides a multimodal environment.		✓	
- The plan avoids placing blank walls along sidewalks/walkways.		✓	
- The plan provides for a transit friendly mix of uses.		✓	
- The plan provides uses that would be considered conveniences for surrounding residents, workers and transit patrons.		✓	
- The property is located close to existing office, residential and retail		✓	
- Parking will be hidden from the street view behind buildings, screened or located in below-grade structures.		✓	
- The property includes way finding signage for all modes and amenities of Transportation		✓	
Complete Streets			
- Street lighting will be provided along all major streets		✓	
- Complete streets, shared streets and traffic calming will be elements of the development plan		✓	
- On-street parking will be provided along select streets to buffer pedestrians and create a reserve of short term parking.		✓	
- The peripheral streets will provide for transit vehicles and their operational needs (i.e., curb radii) as required.		✓	
- Streetscape amenities will be provided to encourage walking and biking, such as benches, trash receptacles, planters, etc.		✓	
Pedestrian and Bicycle Facilities			
- Pedestrian and bike pathways will be designed to be continuous and facilitate connectivity to surrounding uses.		✓	
- Crosswalks will be provided in locations approved by VDOT and as recommended by the City of Falls Church.		✓	
- Building entrances will be clearly defined so people do not have to search for the way in.		✓	
- Bicycle lockers, racks, etc. will be provided throughout the site.		✓	
- Pedestrian signals will be incorporated as part of any new signal plans.		✓	
- Lighting will be provided to ensure pedestrian safety.		✓	

4.3 City and Regional TDM Programs

Recommended elements of the Mason Row TDM Program include participation in those City and regional programs already in place and operational. The City of Falls Church, the Commonwealth of Virginia and the Metropolitan Washington Council of Governments (MWCOG) currently offer many commuter-related programs and incentives for residents, employers, employees and visitors which can be leveraged by Spectrum at no cost. These external programs, services and incentives have been grouped into various classifications of TDM products and services and are summarized below:

4.3.1 Rideshare (Carpooling and Vanpooling)

- **Commuter Connections Rideshare Program** is a service that matches commuters with others who live and work in the same area. http://www.commuterconnections.org/commuters/ridesharing/
- **Commuter Connections Guaranteed Ride Home** (otherwise known as GRH) provides commuters who regularly (twice a week) carpool, vanpool, bike, walk or take transit to work with a **FREE** and reliable ride home when one of life's unexpected emergencies arise. http://www.commuterconnections.org/commuters/guaranteed-ride-home/
- **Commuter Connections Pool Program** offers financial rewards to lifelong solo drivers who start or join a new carpool in the Metropolitan Washington Statistical Area. http://www.commuterconnections.org/commuters/ridesharing/pool-rewards/
- **NuRide** is a national rewards program for commuter using sustainable and green travel modes. Commuters accrue points with each green trip that may be redeemed for prizes. http://www.nuride.com/
- **I-495 Express Lanes** delivers a new HOV option to the Capital Beltway in Virginia, opening up new carpooling and slugging opportunities. The lanes, which allow HOV vehicles to ride for free, significantly expands the regional HOV network and link with the planned I-95/395 HOV/Bus/HOT lanes, I-66 and the Dulles Toll Road creating a 70-mile HOV/Bus/HOT lanes network. http://www.vamegaprojects.com/about-megaprojects/i495-hot-lanes/#benefits

4.3.2 Cycling

- **Locker Rental Program** at the West Falls and East Falls Metrorail Station. http://www.wmata.com/getting_around/bike_ride/bike_and_ride.cfm

4.3.3 Telework

- **Telework!VA** program provides telework training and financial incentives for Virginia businesses to establish or expand telework programs for their employees. The program was established by the Commonwealth of Virginia's Department of Rail and Public Transportation (VDRPT) in an effort to reduce traffic congestion, improve air quality, and facilitate better transportation through technology. http://www.teleworkva.org/

4.3.4 Transit

- **Metrobus** is the bus service offered by WMATA. Available lines in the area include the 28A, 28X, and 3T. For more information visit: http://www.wmata.com/bus/

4.3.5 Benefits

- **SmartBenefits** is a convenient program to electronically allocate money each month for commuting via rail, bus or vanpool to employees. Employers can choose to offer transit benefits by either withholding a certain amount of money from paychecks or offering it as a tax-free benefit. http://www.wmata.com/business/employer_fare_program/
- **MegaBenefits** is a fund matching program provided by the Commonwealth of Virginia for employers who would like to implement SmartBenefits.
- Bicycle commuters are eligible for the **Federal Bicycle Benefit** of $20.00 per month for bicycle commuters. http://www.bikeleague.org/news/100708faq.php

4.3.6 Events & Campaigns

- **Walk to Work Day** - Walk to Work Day encourages commuters to get to their place of employment on foot. The event is best suited for densely populated cities and people that live close to their work. *April 1, 2016*
- **Earth Day** - Earth Day encourages individuals to curb their personal impact on the planet by cutting pollution and waste for the day. Started as a day of observance, Earth Day has evolved into a global action-driven event. *April 22, 2016*
- **Bike to Work Day** - This event encourages commuters to bike to work and raises awareness of alternative modes for transportation. Local organizations like WABA offer bike safety workshops. *May 20, 2016*
- **International Car Free Day** - This is an international event celebrated every September 22 in which people are encouraged to get around without cars and instead ride a train, bus, bicycle, carpool, subway, vanpool, walk or telework. Car Free Day is open to all commuters, students, homemakers and seniors in the Metropolitan Washington area. *September 2015*
- **Dump the Pump –** This event encourages people to pledge to "Dump the Pump" and take an alternative means to driving. *June 2016.*

As part of the Mason Row TDM program, residents, visitors, employees, and patrons will be made aware of the many existing programs and campaigns at their disposal. Brochures, marketing materials, etc. will be provided through the offices of a common Transportation Coordinator (TC) retained for the overall project.

4.4 TDM Measures Checklist

In order to obtain significant results through a TDM program, this plan proposes a four prong program. It will contain TDM measures for the redevelopment site as a whole, as well as individual residences, hotel/retail/cinema employees, and office employees. The site-wide strategies will apply to the entire property and will represent the umbrella of the TDM program for Mason Row. Individual residential, hotel/retail/cinema, and office elements will build off the site-wide measures providing a customized approach for each individual target population.

Table 7 outlines a comprehensive list of all available and appropriate TDM measures accessible to the Mason Row redevelopment. A combination of these strategies will need to be implemented in order to achieve the goals outlined in Section 6.

Table 7: Available TDM Measures to the Mason Row Redevelopment:

Categories	Measures	Site Wide	Residential	Hotel/Retail/ Cinema	Office
Program Manangement	Establish Transportation Coordinator (TC)	x			
	Facilitate development of Residential Transportation Coordinators		x		
	Conduct commute surveys	x			
	Conduct traffic and/or parking counts	x			
	Prepare and submit annual program report	x			
Financial Incentives/ Disincentives	Provide carsharing incentives		x		
	Provide SmarTrip cards to residents		x		
	Encourage pre-tax deduction of transit and vanpool fares to tenants			x	x
	Provide Incentives for Online Ordering and Delivery		x		
	Develop a comprehensive Vehicle Parking Demand Management Plan	x			
	- On-site carsharing vehicle program	x			
	- Provide Unbundled Parking	x			
	- Establish parking supply limitations		x		
Alternative Work Arrangements	Encourage flexible or alternative work hours				x
	Encourage telework program to tenants				x
Support Services - Design	Provide for bus stop improvements	x			
	Provide secure and weatherproof bicycle parking	x			
	Provide an Information Kiosk for Transportation	x			
	Provide a shuttle to Metrorail	x			
	Develop TDM program branding/website/marketing plan	x			
	Provide new-resident or tenant commuter information package		x	x	x
	Participate in regional TDM awareness campaigns	x			
	Promote real-time transit information	x			
	Create site-based transportation guide	x			
	Live-Work-Play Campaign	x			
Support Services - Supporting Activities	Promote MWCOG's Guaranteed Ride Home Program	x			

4.5 Mason Row TDM Program Site-Wide TDM Program Elements

Site-wide strategies are those that apply to the entire Mason Row site. *The site-wide TDM program strategies for the Mason Row site may include one or more of the following elements:*

- Appoint a Transportation Program Manager (TC);
- Develop TDM Program Branding;
- Develop a TDM Program Marketing Plan;
- Design TDM Program Website;
- Promote Real-Time Travel information;
- Develop Site-based Transportation Access Guide;
- Implement Live-Work-Play Marketing;
- Advocate for Bike Share on the site; and
- Provide a Connection to Metrorail.

Detailed descriptions of each strategy are included in the sections below.

4.5.1 Site-Wide TDM Program Management

STRATEGY: SPECTRUM WILL DESIGNATE A STAFF MEMBER TO SERVE AS THE TRANSPORTATION COORDINATOR (TC) FOR THE MASON ROW REDEVELOPMENT.

Transportation program management responsibilities will be designated to a single site representative associated with the Mason Row redevelopment, which may also be

responsible for overall operations and maintenance. This individual will serve as a central point of contact and manage the overall TDM program and Annual Report. The location of the program manager's office will be publicized broadly within the redevelopment site area, and the manager will be available for consultation during regular office hours.

TC Responsibilities will include, but may not be limited to:

- Develop an Annual TDM Report, which will outline the activities to be implemented in the upcoming year, provide an assessment of strategies implemented to date and in consultation with the City secure approval of the Transportation Management Plan.
- Promote transportation alternatives to all owners, residents and office/retail/ hotel/ cinema employees.
- Remain available to answer questions about all aspects of the TDM program
- Manage a volunteer network of individual Transportation Coordinators located at residential and office/retail/hotel/cinema buildings, and provide these coordinators with materials and information to distribute about the TDM Program and organize periodic and regular meetings with these coordinators.
- Recruit and engage participants for any outreach events or campaigns associated with the TDM Program over time.
- Coordinate with local TDM providers, Telework!VA and MWCOG to obtain support for program implementation.
- Train residential and commercial sales and/or leasing staff on TDM Program elements and information so they can provide these materials to tenants as they move in or to use as a recruitment tool.
- Coordinate and manage IT efforts associated with the TDM Program.
- Coordinate all monitoring and evaluation activities necessary to measure the effectiveness of the TDM program and parking occupancies.

The overall approach of the TC will likely follow an individualized marketing framework. Individualized marketing is a TDM implementation and evaluation process that takes the principles of social marketing and customizes them to transportation programs focused on the individual traveler. The approach is simple: target customized information, training, and incentives to people who are open to changing the way they travel. Identifying people open to trying transportation alternatives is achieved through surveys of the population to determine who uses transportation alternatives currently, who is interested in using them more, and who would never consider changing their travel behavior. The programs are implemented and the participants are then surveyed again to understand how their travel behavior changed. This approach will ensure resources are spent on individuals most likely to change and will make sure all elements of the TDM program are captured in one fluid implementation strategy.

4.5.2 TDM Program Branding

STRATEGY: THE TC WILL DEVELOP A BRAND FOR THE TDM PROGRAM INCLUDING A LOGO AND CORRESPONDING COLLATERAL.

An initial step in the promotion and marketing of the TDM Program is the development of a program brand. The brand will be used on TDM program marketing materials, which may include e-newsletters, the program website, print ads, brochures, flyers, premiums, and news releases.

To be successful, a brand must offer a relevant, consistent message that resonates with current and potential customers. The graphic identity of a program brand, including a logo, taglines, and a brand standards document should convey the program's ability to address the needs of the various types of residents, employees, and visitors that will travel to the redevelopment site. The brand should create a single point of reference for the individuals that will access the redevelopment daily.

4.5.3 TDM Marketing Plan

STRATEGY: THE TC WILL DEVELOP A MARKETING PLAN FOR EACH YEAR THE TDM PROGRAM IS ACTIVE,

The Marketing Plan reinforces the TDM brand and ensures that communications with Mason Row Residents/Employees/Visitors by the TDM Program remains organized, consistent, and efficient. The Marketing Plan will host messaging and timing of communication through the various communication channels the TC uses to communicate with Mason Row audiences. To ensure that significant progress is made site goals, the marketing plans will focus on concepts most likely to generate interest in specific commute options.

4.5.4 Program Website

STRATEGY: THE TC WILL DEVELOP AND DEPLOY A WEBSITE FOR THE TDM PROGRAM.

The TC will develop a centralized website to serve as a hub of transportation-related information for residents, employees, and visitors to the redevelopment site. The website will contain a live traffic map, links to area transit, rideshare, and other relevant agencies for scheduling and route information as well as providing opportunities for users to learn more

about transportation options. If an existing property-wide website exists, a link to the TDM Program Website will be created and maintained.

4.5.5 Promote Real-Time Travel Information

STRATEGY: THE TC WILL INCORPORATE REAL-TIME TRAVEL INFORMATION INTO THE TDM PROGRAM WEBSITE INCLUDING SMARTPHONE ACCESSIBILITY.

The availability of real-time travel information has been shown to make travel using alternative transportation more attractive. Studies have shown that providing Real-time travel information has been found to decrease perceived wait times and increase rider satisfaction with travel systems. In order to encourage the use of alternative transportation, the TC will install an Electronic Information Display at high traffic areas to show real-time transportation information. Additionally, the TC will promote applications and websites that provide real-time travel information. The TC will also monitor new technology that can be used to increase the use of non-SOV travel modes and implement those strategies when appropriate based on costs and potential benefits. The information provided may include, but not be limited to, the following:

- Traffic conditions, road hazards, construction work zones, and road detours;
- Arrival times and delays on Metrorail and area bus routes;
- Real-time parking conditions and guidance to current on-site parking vacancies; and
- Carshare and Rideshare availability.

4.5.6 Site-based Transportation Access Guide

STRATEGY: THE TC WILL DEVELOP AND DISTRIBUTE A MASON ROW ACCESS GUIDE ON AN ONGOING BASIS.

A local access guide will be made available to all traveler groups to the redevelopment site, including residents, employees, and visitors. The guide will provide them with information about how to access transportation options, parking, retail, and services, as well as provide them with a sense of amenities and destinations within walking and biking distance. When possible these access guides will be provided to new residents as part of their move-in packet as well as to all new employees in office and retail space. The purpose of the local access guide is to familiarize residents, employees, and visitors with what is available in and around the Mason Row redevelopment site. By doing so, the need to travel off-site is reduced and in some cases eliminates the need for a vehicle during work hours to run errands. The local access guide will be updated on an annual basis or as needed.

4.5.7 Live-Work-Play Marketing

STRATEGY: THE TC WILL DEVELOP MARKETING CAMPAIGNS AND MESSAGING FOCUSED ON LIVING, WORKING AND PLAYING IN AND AROUND FALLS CHURCH.

A live-work-play marketing program will be implemented to encourage tenants of the residential uses to work, shop, and eat within Falls Church. An advanced strategy will be implemented to encourage local employees to purchase or lease housing close to their worksites through a variety of financial incentives that shall be determined. These may include, but are not limited to, free rent for one month for qualified employees of adjacent

employers or giving away bicycles to encourage biking from home to work. The TC will also seek discounts or coupons from local retail and service establishments and distribute those items to residents to encourage them to shop locally. This marketing encourages residents to shop at, eat at, and visit businesses that are within walking distance of their homes or accessible via transit.

4.5.8 Bike Share

STRATEGY: THE TC WILL WORK WITH THE CITY AND OTHER APPOINTED STAKEHOLDERS TO ASSESS BIKESHARE INFRASTRUCTURE ON THE MASON ROW REDEVELOPMENT SITE.

Should a bikeshare program be created in Falls Church, the TC will work with the City to determine whether location(s) on the properties for bike kiosks would be appropriate. If locations are deemed feasible, the TC will market and promote the bike share services to tenants, employees, and residents.

4.5.9 Site Connection to Metrorail

STRATEGY: THE TC WILL IMPLEMENT A FREE CONNECTION TO METRORAIL THROUGH EITHER A SHUTTLE SERVICE OR TRANSIT SUBSIDY.

In order to maximize the sites' proximity to Metrorail, it is recommend that Mason Row implement a free connection to Metrorail by way of a shuttle or transit subsidy.

The shuttle service will transport passengers from Mason Row to Metrorail during peak hours on weekdays. Additional stops in-between can be considered based on resident/office/hotel/retail/cinema demands. Shuttles will be equipped with a Real-Time travel feed which will be displayed directly on the Real-Time Travel Map hosted on the program website. The shuttle service can be solely operated by Mason Row or part of a joint shuttle service agreement with nearby developments in Falls Church.

In lieu of the shuttle service, the TC may provide on-going transit subsidies to site residents who take transit to work. It is suggested that the amount of the subsidy be equal to the total transit cost from the site to Metrorail. The transit subsidy shall be distributed monthly and deposited directly onto the users SmarTrip Card.

4.6 Mason Row Residential TDM Program Elements

In addition to site-wide TDM Program elements outlined in Section 4.5, several TDM strategies will be implemented for new residents associated with the Mason Row property. These strategies leverage the site-wide TDM program elements, as well as existing Regional TDM strategies such as Ridesharing and Guaranteed Ride Home that are available for free use by residents. *The TDM strategies that shall be implemented for residents may include one or more of the following:*

- Appoint Residential Transportation Coordinators;
- Provide Carsharing Incentives;
- SmarTrip card distribution to residents;
- Incentives for online ordering and delivery;

- New resident commuter information package.

Detailed discussions of each of the strategies are included below.

4.6.1 Residential Transportation Coordinators (RTCs)

STRATEGY: THE TC WILL ASSIST IN THE DESIGNATION OF ONSITE RTCS.

Each residential building or group of buildings under common ownership will likely have a property manager designated to serve as a point of contact for the TDM program for that building(s). These RTCs could be paid staff of the property management company, residential leasing agents, or others who have responsibility for the ongoing operation and maintenance of the building(s). These individuals will have the following responsibilities:

- Promote and distribute information about the TDM Program. This information will be produced by the TC and the only responsibility of the RTCs will be to distribute it within their building(s).
- Inspect the condition and functionality of the bicycle storage located within or on the grounds of the building(s). Report any issues to the TC.
- Respond to questions or concerns about TDM program elements, provide information, and coordinate with the TC as necessary (i.e. transportation fairs, campaign events, etc.)

4.6.2 Carsharing

STRATEGY: THE TC WILL PROMOTE CARSHARE MEMBERSHIP.

Carsharing services are a critical component of reducing vehicle occupancy on site because they are effective at reducing vehicle ownership. The TC will advise residential tenants/owners information as to the existence of these services. Additionally, carsharing incentives may be distributed to encourage the use of such services. Promotion of the carsharing program will be posted on the leasing website and information regarding this program will be distributed to residents in their welcome packets.

4.6.3 SmarTrip card Distribution to Residents

STRATEGY: THE RTCS, WITH ASSISTANCE FROM THE TC, WILL DISTRIBUTE SMARTRIP CARDS TO ALL NEW RESIDENTS

Distribution of transit cards has been shown to be effective at increasing transit use. For this reason, the RTC will distribute Metrorail SmarTrip® cards to all initial residents of driving age who can demonstrate employment within one 1 mile of an established Metrorail station or direct bus route (28A, 28X, 3T). The cards will be preloaded with $25 and will be integrated into their welcome packets along with the access guide. The goal of these cards will be to encourage the use of transit throughout the redevelopment site. The measured success of this campaign will be gaged through the survey instrument.

4.6.4 Incentives for Online Ordering and Delivery

STRATEGY: THE TC WILL SUBSIDIZE DELIVERY SERVICES FOR MULTIFAMILY RESIDENTS

In order to effectively reduce vehicle ownership, individuals need to be given alternatives to driving for all trips. Whereas many TDM strategies focus on reducing vehicle usage between home and work, this strategy focuses specifically on providing an alternative option for shopping trips. The property owner will make a one-time contribution to initial multifamily residents who do not request a parking spot in order to partially subsidize goods and grocery delivery services. Promotion of this program will be posted on the leasing website and information regarding this program will be distributed to residents in their welcome packets.

4.6.5 New Resident Commuter Information Package

STRATEGY: THE RTCS WILL COMPILE AND DISTRIBUTE COMMUTER INFORMATION PACKAGES TO ALL NEW RESIDENTS

The RTC will distribute to all new residents a transportation information package which will include information on alternative transportation at Mason Row. The purpose of these commute information packages is to raise awareness of the transportation benefits and amenities available for residents. Information in this package should include, but not be limited to, the following:

- SmarTrip card,
- Overview of Transportation Amenities on Site (Site Access Guide),
- Transportation Demand Management Program Overview,
- Shuttle or Transit Subsidy Information,
- Bikeshare information (if applicable),
- Overview of Carshare,
- Promotion of subsidized delivery services,
- Transit service schedules,
- Promotion of Guaranteed Ride Home,
- Promotion of Commuter Connections,
- Promotion of Live Near Work Program, and
- Live Work Play Discounts Information.

4.7 Mason Row Retail/ Hotel/Cinema TDM Program Elements

In addition to the site-wide TDM Program elements outlined in Section 4.5, several TDM strategies will be implemented for hotel/retail/cinema employees at the Mason Row redevelopment. These strategies leverage the site-wide TDM Program elements, as well as several existing Regional TDM strategies such as Ridesharing and Guaranteed Ride Home that are available for free use by employees. *The TDM strategies that shall be implemented for Retail/ Hotel/Cinema employees may include one or more of the following:*

- Promoting Pretax Metrorail, Vanpool, and Bicycle Benefit Programs;
- Shuttle Service for Hotel Guests, Visitors, and Employees;
- Distributing New Employee Commuter Information Package.

Detailed discussion of each strategy is included below. Aside from the TC's efforts in this regard, the vehicle trips generated by retail/cinema uses will not be included in the trip counts reported for the overall development.

4.7.1 Pretax Metrorail, Vanpool, and Bicycle Benefit Programs

STRATEGY: THE TC WILL PROMOTE FEDERAL PRETAX METRORAIL, VANPOOL, AND BICYCLE PROGRAMS TO EMPLOYERS AND EMPLOYEES OF HOTEL/RETAIL/CINEMA.

Established in 2001 by the United States Internal Revenue Service (IRS), the Section 132(f) transit and vanpool pretax benefit enables commuters to pay for transit passes, vanpool fares, bicycle commuting costs, and parking costs through their employer on a pre-tax basis. The limits vary by mode used and are generally updated annually by the IRS. For the 2015 tax year, the benefit levels were $130 per month for transit and vanpool services and $250 per month for parking. The bicycling commuter benefit was recently introduced with a pre-tax benefit of $20 per month.

The TC will conduct outreach to inform employers and employees of retail/hotel/cinema at Mason Row about this program element and its associated benefits as long as the tax law allows for this benefit.

4.7.2 Shuttle Service for Hotel Guests, Visitors, and Employees;

STRATEGY: THE HOTEL PLANS TO OPERATE A FREE SHUTTLE SERVICE FROM THE SITE TO METRORAIL FOR GUESTS, VISITORS, AND EMPLOYEES.

The hotel at Mason Row plans to operate an exclusive shuttle for hotel guests, visitors, and employees. This shuttle, which will operate during peak hour, will provide individuals affiliated with the hotel a direct and free connection to Metrorail from Mason Row.

4.7.3 New Employee Commuter Information Package

STRATEGY: THE TC WILL COMPILE AND DISTRIBUTE COMMUTER INFORMATION PACKAGES TO ALL NEW EMPLOYEES OF HOTEL/RETAIL/CINEMA.

The TC will distribute to all new employees, a transportation information package which should include information on alternative transportation at Mason Row. The purpose of the commute information packages is to raise awareness of the transportation benefits and amenities available for employees. Information in this package should include, but not be limited to, the following:

- Overview of Transportation Amenities on-site (Site-Access Guide),
- Transportation Demand Management Program Overview,
- Shuttle or Transit Subsidy Information,
- Bikeshare information,
- Overview of Carshare,
- Transit Service schedules,
- Promotion of Guaranteed Ride Home,

- Promotion of Commuter Connections,
- Promotion of Live Near Work Program,
- Live Work Play Discounts Information, and
- Transit and Vanpool Pretax information.

4.8 Mason Row Office TDM Program Elements

Many of the strategies recommended for Residential, Hotel, Retail, and Cinema uses are complementary strategies that can also be implemented for employees of office uses. The TC will market the TDM programs defined within Section 4.5 of this TDM Plan to employees of office uses at Mason Row. *The TDM strategies that shall be implemented for office employees may include one or more of the following:*

- Promote Pretax Metrorail, Vanpool, and Bicycle Benefit Programs;
- Promote Telework and Variable Work Hours; and
- Distribute New Employee Commuter Information Package.

4.8.1 Pretax Metrorail, Vanpool, and Bicycle Benefit Programs

STRATEGY: THE TC WILL PROMOTE FEDERAL PRETAX METRORAIL, VANPOOL, AND BICYCLE PROGRAMS TO NEW RETAIL EMPLOYERS AND EMPLOYEES.

The TC will expand upon outreach efforts to Hotel/Retail/Cinema employees (described in Section 4.7) to conduct outreach to office employers and employees to inform them of this program element and its associated benefits. This will continue as long as the tax law described in Section 4.7 of this plan allows for this benefit.

4.8.2 Telework and Variable Work Schedules

STRATEGY: THE TC WILL ENCOURAGE AND ASSIST OFFICE TENANTS WITHIN THE DEVELOPMENT WITH IMPLEMENTATION OF TELEWORK AND VARIABLE WORK SCHEDULES POLICIES AND PROCEDURES.

The Mason Row redevelopment will likely employ individuals at the office uses who can occasionally or frequently telework (e.g., work from home) or have considerable flexibility on when they can arrive or depart from their office. Given that some of the office employees will choose housing options greater than 15-20 miles from the redevelopment site, promoting the option to telework or flex arrival time could become a significant recruitment and retention tool for employees. This strategy will spread out or significantly reduce peak hour trips. The TC will encourage and assist companies with the development and implementation of telework and variable work schedules policies and procedures.

4.8.3 New Employee Commuter Information Package

STRATEGY: THE TC WILL COMPILE AND DISTRIBUTE COMMUTER INFORMATION PACKAGES TO ALL NEW RETAIL/CINEMA EMPLOYEES

The TC will expand distribution of information package elements (described in Section 4.7) to hotel/retail/cinema employees. Information in this package should include, but not be limited to, the following:

- Overview of Transportation Amenities on-site,
- Transportation Demand Management Program Overview,
- Shuttle or Transit Subsidy Information,
- Bikeshare information,
- Overview of Carshare ,
- Transit Service schedules,
- Promotion of Guaranteed Ride Home,
- Promotion of Commuter Connections,
- Promotion of rent discounts for working nearby,
- Live Work Play Discounts Information, and
- Transit and Vanpool Pretax information.

Section 5

Parking Demand Management

As stated above, TDM works best when complementary strategies are taken together. One of the strategies that have a significant impact on vehicle trip reductions is parking management. There are several parking management techniques that incentivize travelers to use an alternate mode and/or reduce auto ownership. Each of those proposed for implementation as part of the Mason Row TDM program supports the City's TDM Guidelines. *The following parking management strategies that shall be implemented at Mason Row may include one or more of the following:*

5.1.1 Limited Parking Supply

STRATEGY: SPECTRUM HAS SOUGHT A PARKING REDUCTION IN ORDER TO REDUCE VEHICLE OWNERSHIP AND VEHICULAR TRIPS.

In order to encourage more efficient use of parking facilities, reduce parking demand and shift travel to alternate modes, Spectrum has filed a parking reduction request with City of Falls Church Development Services. Managing parking by reducing the available supply helps to reduce the undesirable impacts of parking demand on local and regional traffic levels, as well as the resulting impacts on community livability. Two effective Parking Demand Management practices are (1) shared parking and (2) the implementation of parking maximums.

Shared parking works best when you have multiple destinations within walking distance of each other and the same parking facility, and when those destinations share patrons, or have different time periods when parking demand is at its highest. Shared parking is also effective in mixed-use developments. Parking maximums impose limits on the number of spaces provided at new developments and are most effective in activity centers or downtowns. Both shared parking and the use of parking maximums are proposed with the reduction request(s) that were submitted to Falls Church Development Services.

5.1.2 Parking Management Program

STRATEGY: THE TC WILL DEVELOP AND IMPLEMENT A PARKING MANAGEMENT PROGRAM AIMED AT REDUCING VEHICLE OWNERSHIP.

There are several parking management techniques that can reduce vehicle ownership. Often, providing individuals with options and informing them of their transportation choices is not enough to encourage them to try alternatives to driving alone. Financial incentives, disincentives, and regulations are critical components to motivate travel change. The following elements within the Parking Management Program are designed to reduce vehicle ownership, as well as single occupant vehicle trips:

- Carsharing placement and services,
- Unbundling parking for residential and office space,
- Establish vehicle ownership limitations,
- Limit the supply of available parking.

5.1.3 Carsharing Placement and Services

Carsharing refers to a short-term automobile rental service available to the general public for a limited timeframe, typically only a few hours. Carsharing is an effective tool that can be used to reduce ownership of vehicles by eliminating the need for a private vehicle to complete non-work trips. The service also encourages office travelers to use alternatives to SOV's (like transit) because they can use carshare vehicles for mid-day trips rather than be forced to rely on their private vehicle.

Research by Martin, Shaheen, and Lidicker identified that carsharing services over the past 11 years has reduced the number of vehicles on the road by between 90,000 and 130,000. This equates to about a 9 to 13 vehicle reduction for every carshare space installed. A separate study conducted by the Transportation Research Board in 2005, concluded that carsharing vehicles are estimated to take 14.9 private cars off the road per space. Zip Car and Enterprise (private carshare providers) publicize this rate as a demonstration of the value of their services.

In support of car sharing, Spectrum has committed to provide two (2) dedicated car share spaces within Mason Row. These spaces shall be provided at no cost to the service operator and shall be located in easily accessible areas within the Application Property.

5.1.4 Unbundled Parking for New Residential

Unbundling refers to a strategy where parking is rented or sold separately, rather than automatically included with the rent for a building space. This element reveals the true cost of parking, which allows users to consider a more accurate travel cost trade-off when deciding what transportation to choose.

Parking for residential units will be unbundled and purchased/leased at market rates. In cases where the market dictates that parking be inclusive of lease costs, the cost of the parking can be presented to the lessee as a line item.

5.1.5 Establish Vehicle Parking Space Limits

As a means to ensure enough parking availability, the RTC will limit the number of parking spaces associated with all multifamily residential units to 1.39 cars per unit. Of the 1.39 spaces per unit approximately 0.15 spaces per unit will be available for residential visitors/guests.

Section 6

Evaluation and Monitoring

Program monitoring and evaluation are important components of any successful TDM and Parking Management Program. To ensure credibility and performance, the monitoring program should assess compliance of TDM program elements outlined in Sections 4.2 through 4.8 using the metrics outlined in Section 4.1: Mason Row TDM Program Goals and Objectives. These metrics include:

- Reduce the number of peak hour trips generated by residential and office uses from projected ITE Trip Generation amounts by 25%,
- Increase the non-SOV mode share for the site as a whole to 47%, and
- Reduce parking demand for the site by 10%.

Reasons to develop a monitoring program include, but are not limited to, the following:

- Provide a quantitative benchmark of the program's effectiveness in reducing trips and parking demand,
- Assist the City and the TC in redirecting efforts when assessing the effectiveness of program elements in achieving trip reduction and parking occupancy goals,
- Provide the TC with a tool to direct the TDM and Parking Management Program, and
- Provide evidence to the City and the public of the diligence of the applicant in implementing the programs.

There are different methods for collecting the data necessary to monitor both the TDM and Parking Management Programs, including surveys (of employees, residents and/or visitors), program participation documentation, vehicle counts, parking occupancy counts, and activity logs. The Mason Row monitoring program will primarily use surveys, parking occupancy counts, and traffic counts to evaluate the effectiveness of program strategies. Each of these tools are discussed below.

6.1 Monitoring

6.1.1 Commute Survey

One of the primary tools for monitoring the effectiveness of the Mason Row TDM and Parking Management Programs will be regular surveys of all on-site residents and employees. Surveys will be conducted annually post initial occupancy in accordance with the City's TDM guidelines until such time as three (3) consecutive years of surveys indicate that the site is meeting the mode split goal. In addition to monitoring the success of the TDM Program, surveys will also assess auto ownership for residents of Mason Row.

The surveys are intended as a complement to vehicle and parking occupancy counts by providing a qualitative understanding of how well TDM and Parking Management program elements are working. The survey questions, at a minimum, will ask residents and employees for the type and frequency of modes of transportation used in a typical week,

reasons behind driving alone, incentives that would encourage drive alone respondents to use an alternative mode, whether or not respondents participate in telecommuting and/or flex work hours, etc. Additionally, residents will be asked about the amount of vehicles owned and/or leased per household type. Surveys will be developed and conducted by the TC in consultation with the City of Falls Church.

The TC will conduct such surveys in the spring or fall season of a given year (between March and May or between September and November). The survey will be completed during a week without any holidays and when area Falls Church Public Schools are in session. The surveys may be conducted by mail, telephone and/or email. Regardless of the type of survey ultimately used, a high degree of follow-up is recommended. This is very important to achieving a high response rate.

6.1.2 Parking Occupancy Counts

Parking counts refer to a visual or automated account of occupied and/or empty parking spaces used to ensure that the amount of parking supply on the redevelopment site is appropriate to meet peak hour parking demand. The methodology associated with the collection of parking occupancy counts will be coordinated with the City of Falls Church for a minimum of 30 days prior to the initiation of such counts and/or surveys.

At a minimum, parking occupancy counts will be conducted annually beginning one year after site occupancy.

- Residents, employees, and visitors will not be advised as to the date/time of the parking occupancy counts;
- Occupancy counts will be conducted on a typical Tuesday, Wednesday or Thursday during a non-holiday week when area public schools are in session;
- Counts will be collected between 6:00 AM and 6:00 6:00 PM; and
- Parking occupancies will be recorded every 60 minutes.

Parking Occupancy Counts will continue to be collected until three (3) years of consecutive counts conducted post-full occupancy show that the parking demand associated with residential uses is met based on the overall amount of parking supply.

As outlined above, the specifics of the parking occupancy collection and reporting efforts will be coordinated with the City of Falls Church prior to the initiation of data collection activities. Parking counts will be overseen by the TC and timing will be consistent with commute surveys and traffic surveys. In order to determine if parking is sufficient to meet the demands of the site, the TC shall determine, as evidenced by the parking counts, the percentage of spaces occupied and averaged over the twelve hour period of 6:00 PM to 6:00 AM. If the average percent occupied is less than 97% of the overall supply, then the parking is deemed sufficient to meet demand. If the average percentage occupied is greater than or equal to 97% of the available supply, then the Transportation Coordinator will meet with the City to discuss additional strategies within the TDM Plan to be implemented in order to reduce parking demand. The TC shall present the results of the parking count results to the City in the annual report.

6.1.3 Traffic Counts

Vehicular traffic counts will be collected post build out for the site on an annual basis at all building vehicular entries/exits and/or select intersections to complement person surveys of the redevelopment site discussed above. Counts will be conducted during weekday AM and PM peak hours, as identified by a traffic engineering analysis. Vehicle counts will be recorded at 15-minute intervals. Automated data collection may be supplemented with manual peak hour turning counts at select locations if necessary. The specifics of the traffic count collection and reporting formats will be coordinated with the City of Falls Church and will be generally consistent with the process associated with the Parking Occupancy Counts. Traffic counts will be performed by the TC and timing will be consistent with the Commute Surveys and Parking Occupancy Counts. Traffic Counts will continue to be collected until three (3) years of consecutive counts conducted post-full occupancy show that the traffic generation associated by the residential and office uses meets the goals for site. Additional counts may be performed any time thereafter as requested by the City, but not to exceed once per year.

Traffic counts are a very accurate snapshot of the real impact of a TDM Program and provision of alternative modes and services. However, they do not provide insight on the overall effectiveness of a TDM Program, such as residents' perceptions and/or appreciation of transportation benefits, utilization of transit services, number of people biking, using the telework program, or traveling during off-periods. For these reasons the commute survey detailed above will also be implemented.

6.2 Annual Reports

The TC will summarize the results of the TDM and Parking Management program for Mason Row annually until such time after full occupancy when three (3) years consecutive commute surveys and trip counts demonstrate compliance with goals for the site. Typically these reports will detail when strategies were implemented, how many individuals participated, lessons learned regarding the most effective strategies, as well as a summary of monies expended/available in TDM Accounts. The Annual Report will contain a summary report of survey, parking occupancy, and traffic count results as well. All reports will be submitted to the City of Falls Church.

If any of the reports show the redevelopment site is not meeting the target reduction goal, the Non-SOV mode split, or the parking demands are exceeding the available supply, then the TC will review the strategies in place and develop modifications to the TDM strategies, adopt additional TDM strategies, and conduct such supplemental parking occupancy, surveys, and/or traffic counts as deemed appropriate in coordination with the City of Falls Church staff.

Section 7

Program Funding & Sustainability

The City of Falls Church TDM Guidelines suggest the creation of two TDM funds in a "Full" TDM Program. One fund, the TDM Account Fund, would sustain the implementation of the TDM Program. The other fund, the TDM Penalty Fund, will fund any TDM mitigation measures should the site not comply with TDM goals established. Discussion for the establishment and funding of these accounts is included below.

7.1 TDM Account Fund

The intent of the TDM Account is to fund and sustain the implementation of the TDM Program. The TDM Account shall not be eliminated as a line item nor utilized for purposes other than to fund TDM strategies/programs and/or specific infrastructure needs as may be approved in consultation with the City of Falls Church. Funding of the TDM Account shall be at a minimum equal to $0.10 per square foot of development in accordance with TDM guidelines for a total of $57,368.10 per year. The TDM Account shall be replenished annually thereafter following the establishment of each year's TDM Budget. The TDM Account shall be managed by the TC. A summary of the TDM Account will be included in the Annual Report.

7.2 TDM Penalty Fund

A TDM Penalty Fund will be established in the event that the site does not comply with TDM goals established for the site. In accordance to City of Falls TDM Guidelines, funding into this account will be made at a rate of $0.05 per square foot of residential space and $0.10 per square foot of office space for a total of $19,717.55. If the site meets TDM goals for three consecutive years, then Spectrum or subsequent owners are eligible to cash in the penalty fund. If they do not meet the goals set in the TMP during the first three years, then the tenant/owner is required to use a portion of the penalty fund towards additional TDM activities.

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Appendices

Appendix A: Trip Generation

Table 6-1
Mason Row
Site Trip Generation Analysis [1]

Scenario	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total		PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total		Average Daily Trips	
Existing Driveway Counts				106	110	216		42	78	120		1200	
Proposed Uses													
Residential/Hotel Uses													
Hotel	310	145	occupied rooms	56	41	97		50	52	102		1,293	
Apartment	220	340	dwelling units	34	136	170		133	72	205		2,184	
Residential/Hotel Subtotal				90	177	267		183	124	307		3477	
Retail/Residential Internal Allowance (5% AM/10% PM)				(5)	(6)	(11)		(10)	(8)	(18)		(420)	
Residential/Hotel External Trips				85	171	256		173	116	289		3,057	
5% Residential/Hotel Mode Split				(4)	(9)	(13)		(9)	(6)	(14)		(153)	
Total Residential/Hotel Vehicle Trips				**81**	**162**	**243**		**164**	**110**	**275**		**2,904**	
Office Uses	710	5,317	GSF	7	1	8	(2)	1	7	8	(2)	141	
Theater Uses	444	42,394	GSF	0	0	0		103	58	161		1,045	(3)
Specialty Retail Center	826	63,147	GSF	112	121	233	(4)	76	97	173		2,799	
Retail Subtotal				112	121	233		76	97	173		2799	
Retail/Residential Internal Allowance (5% AM/10% PM)				(6)	(5)	(11)		(8)	(10)	(18)		(420)	
Retail External Trips				106	116	222		68	87	155		2,379	
Pass-by Trips (25%)				(27)	(29)	(56)		(17)	(22)	(39)		(595)	
Total Non-Residential Vehicle Trips				**86**	**88**	**174**		**155**	**130**	**285**		**2,970**	
Total Site Trips				167	250	417		319	240	560		5,874	
Total Net New Trips				61	140	201		277	162	440		4,674	

Note(s):

(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation, 9th Edition.

(2) It is noted in Trip Generation that "some of the regression curves plotted for this land use may produce illogical trip-end estimates for small office buildings". Thus, for this analysis, the rates have been used for the peak hour office trip generation.

(3) Average Daily Trips based on number of screens.

(4) AM peak hour of adjacent street rate based on (AM peak hour of generator rate X (PM peak hour of adjacent street rate / PM peak hour of generator rate))

Appendix B: NCHRP Analysis

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Mason Row	**Organization:**	Wells + Associates
Project Location:	Falls Church, VA	**Performed By:**	F. Tallis
Scenario Description:	Build Out	**Date:**	7/22/2015
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	5,317	GSF	8	7	1
Retail	826	63,147	GSF	233	112	121
Restaurant				0		
Cinema/Entertainment	444	42,394	GSF	0	0	0
Residential	220	340	DU	170	34	136
Hotel	310	145	Rooms	97	56	41
All Other Land Uses[2]				0		
Total				508	209	299

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.20					
Retail	1.23					
Restaurant						
Cinema/Entertainment						
Residential	1.13	16%	3%	1.13	16%	3%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	0	0		0
Hotel	0	6	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	557	240	317
Internal Capture Percentage	3%	4%	3%
External Vehicle-Trips[3]	461	196	265
External Transit-Trips[4]	30	6	24
External Non-Motorized Trips[4]	6	1	5

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	6%	1%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	3%	1%
Hotel	0%	15%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Mason Row	**Organization:**	Wells + Associates
Project Location:	Falls Church, VA	**Performed By:**	F. Tallis
Scenario Description:	Build Out	**Date:**	7/22/2015
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	5,317	GSF	8	1	7
Retail	826	63,147	GSF	173	76	97
Restaurant				0		
Cinema/Entertainment	444	42,394	GSF	161	103	58
Residential	220	340	DU	205	133	72
Hotel	310	145	Rooms	102	50	52
All Other Land Uses[2]				0		
Total				649	363	286

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.20					
Retail	1.23					
Restaurant						
Cinema/Entertainment						
Residential	1.13	16%	3%	1.13	16%	3%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	0		0	4	25	5
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	4	0		5	1
Residential	0	9	0	0		2
Hotel	0	2	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	692	397	295
Internal Capture Percentage	17%	15%	20%
External Vehicle-Trips[3]	508	291	217
External Transit-Trips[4]	30	19	11
External Non-Motorized Trips[4]	6	4	2

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	14%
Retail	17%	35%
Restaurant	N/A	N/A
Cinema/Entertainment	4%	17%
Residential	20%	14%
Hotel	16%	4%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute