

**1990 TRANSPORTATION DEMAND MANAGEMENT
POLICY STATEMENT**

Dollar amount in parentheses CPI adjusted (2008 dollars)

Transportation Demand Management (TDM) is the establishment of measures to influence travel behavior by mode, frequency, time, route, or trip length in order to achieve a maximally efficient use of transportation facilities.

Arlington's TDM policy focuses on workplace commuter travel and looks to reduce peak hour work travel by achieving a reduction of single occupant vehicle trips. It seeks this goal by encouraging (or, if necessary, requiring) the use of transit, ridesharing, biking, walking or travel outside of peak hours by individuals going to or from workplace centers. The County pursues land use and zoning policies which reduce vehicle trips by promoting proximity of housing and employment.

TDM in Arlington is planned and carried out as a cooperative endeavor of transportation system users, employers, developers, builders, building complex management's, residents and county government. Its objectives are consistent with and help support those of the County's Master Transportation Plan, including achievement of major street and intersection level of service goals.

The key elements in TDM in Arlington include:

- A TDM plan for each development site plan consistent with the TDM Matrix.
- A standard site plan condition to implement the TDM Matrix.
- In-building parking provisions that extend preference to vanpools, carpools and bicycles.
- The encouragement by employers of employee travel to and from the work place by modes of travel other than single occupant automobile through various educational and incentive measures.
- Coordination and cooperation on such measures among employers, building owners and management companies of an employment area through transportation management associations TMAs or districts.
- Arlington County encouragement to TDM planning in its roles as developer of public buildings and as employer.

The County also works through its planning and zoning activities with developers and neighborhoods to achieve the Arlington 2000 goal of workplaces and living places built in close "urban village" proximity to each other.

Major components of carrying out a TDM program for Arlington include (1) ridesharing promotion, (2) parking management, (3) transit promotion, (4) on-site construction measures, (5) mutually agreed off-site provisions or contributions, (6) lease agreements, and (7) monitoring and compliance. The demand management program distinguishes the intensity of the strategies and the impact of the development on the transportation system. The greater the impact, the more intense the mitigation measures to be sought. The categories and density thresholds are described in the following matrix.

The Arlington TDM program seeks to achieve the following results, which may be employed as evaluators of the success of the program. The results sought in Arlington's program are:

1. Maintain peak hour level of service at major intersections at or preferably above Level of Service D.
2. Limit single occupancy vehicle trips generated by development.
3. Reduce vehicle-generated air pollution.
4. Maximize transportation alternatives while minimizing single occupancy travel.
5. Utilize transportation facilities efficiently.
6. Encourage efficient, cost effective modes of transportation that focus on moving people, not vehicles.
7. Improve transit information and dissemination so people will be able to make the most efficient and friendly use of the system.
8. Utilize public transportation effectively and efficiently, through improved system information, frequencies, routing, connections, transfers; innovative technologies are encouraged.
9. Configure mass transportation to provide access to, through, and around employment centers.
10. Encourage innovative technologies that move people between home and work the most efficient and effective way.
11. Maximize convenience of intermodal transfers between the commuter rail system and feeder/distributor systems.
12. Encourage group riding and shared parking arrangements through parking management plans.
13. Minimize or eliminate barriers to group riding.

14. Review transportation management plans during the site development process.

1990 MATRIX TRANSPORTATION DEMAND MANAGEMENT PROGRAM (2008 dollars*)

Standard County policy is set forth in the TDM matrix. However, upon showing of clear and convincing evidence that particular elements of the TDM matrix may be inappropriate for a particular project, the developer may propose substitution of other elements which provide equivalent value.

STRATEGIES	LAND USE CATEGORY			
	A	B	C	D
I. Ridesharing Marketing				
a. information dissemination				
- distribute/display brochures, posters	x	x	x	x
- conduct employee transportation surveys.....	x	x	x	x
b. operate a vanpool program		x		x
c. subsidize vanpool program				
- match State subsidy program			x	x
- double State subsidy program				x
- backup, reserve maintenance vehicle				x
d. employee transportation coordinator				
- designate a part-time ETC	2	x	x	
- designate a full-time ETC				x
- on-site ride matching				x
e. contribute to a transit store or TMA				
- \$ 5,000 (\$8,369) per year	2	x		
- \$10,000 (\$16,739) per year.....			x	
- \$15,000 (\$25,108) per year				x
f. locate/operate a transit store				x
g. emergency ride home (taxi, bus)		3	3	x
II. Preferential Parking Management				
a. unlimited reserved rideshare parking	x	x	x	x
b. market rates for single occupant vehicles	x	x	x	x
c. lease agreements reserved parking space		x	x	x
d. deserved vanpool parking space	x	x	x	x
- one-half market rate	x		x	
- free, no cost		x		x
e. variable rate parking for carpools (2+ employees)				
- market rate	x			
- one-half market rate		x	x	
- free, no cost				x
III. Transit Programs				
a. contribute to operation of an employer shuttle bus				
- \$ 5,000 (\$8,369) per year	2	1	1	1
- \$10,000 (\$16,739) per year	3	2	2	2
- \$15,000 (\$25,108) per year		3	3	3
b. operate an employer shuttle bus service				x
c. fare media subsidy(100 percent is \$100/month)				
- 25 - 50 percent		x		
- 50 - 75 percent			x	
- 75+ percent				x

		LAND USE CATEGORY			
		A	B	C	D
IV.	On-Site Construction				
	a. bike lockers, racks	x	x	x	x
	b. shower facilities	x	x	x	x
	c. van accessible garage	x	x	x	x
	d. off-street delivery loading facility	x	x	x	x
	e. roadway improvements adjacent to site	x	x	x	x
V.	Off-Site Construction				
	a. pedestrian systems (SKYWALK).....	x	x	x	x
	b. direct connections to Metro				
	- existing knockout panels to stations	x	x	x	x
	- new connections				
	(elevator, escalator, tunnels)			x	x
	c. intersection improvements (i.e. turn lane) ...			x	x
	d. new facility construction				x
	e. new Metrorail Station				x
VI.	Lease Agreements: Progressive Employee Policies				
	a. flex time, variable work hours	x	x	x	x
	b. telecommuting	x	x	x	x
	c. trip generation restrictions		x		x
	d. transportation management organization	x	x	x	x
VII.	Monitoring and Compliance				
	a. Monitoring Contribution				
	- \$ 1,000 (\$1,673) / Year	2	1	1	1
	- \$ 5,000 (\$8,369) / Year	3	2	2	2
	- \$10,000 (\$16,739) / Year		3	3	3
	b. Performance Guarantees				x
	c. Zoning Compliance Fines	x	x	x	x
	d. Contingent Phasing			x	x

Land Use Category Code

- A. GLUP consistent, no forecast traffic problem
- B. GLUP consistent, forecast traffic problem
- C. GLUP amendment requested, no forecast traffic problem
- D. GLUP amendment requested, forecast traffic problem

Footnotes

- 1. Less than 100,000 sq. ft. gross floor area
- 2. 100,000 - 200,000 sq. ft. gross floor area
- 3. More than 200,000 sq. ft. gross floor are

*U.S. Department of Labor, Bureau of Labor Statistics, **Consumer Price Indexes** - Inflation Calculator
<http://www.bls.gov/cpi/home.htm>

Category A includes development proposals which are consistent with the General Land Use Plan in terms of both land use type and density (i.e., office, mixed use, 3.0 floor area ratio (F.A.R.) and is located in an area not forecast to have a traffic congestion problem. Mitigation strategies are tied to the size of the development and include strategies that are basic to promoting group riding.

Category B includes development which is consistent with the General Land Use Plan and is located in an area that is forecast to have a traffic congestion problem. The intensity or range of required mitigation strategies would be related to the degree of the traffic problem. For example, if a proposed improvement which is scheduled for construction would improve the situation, the strategy might be required until the time that the improvement is completed.

Category C includes development which is inconsistent with the General Land Use Plan in terms of either land use or density (or both) and is located in an area not forecast to have a traffic congestion problem. Like Category B strategies, the intensity of the strategies would be related to the degree of the development's inconsistency. The inconsistency would be measured in terms of a comparison of the trip generation factors, for by-right, planned, and proposed development.

Category D includes development which is inconsistent with the General Land Use Plan in terms of either land use or density (or both) and is located in an area forecast to have a traffic congestion problem. Like Categories B and C, the intensity of the strategies would be related to the degree of inconsistency. Being both inconsistent and located in a traffic congestion area, a comprehensive program coordinating a combination of several strategies at the highest level of participation would be required.

A second and third level of stratification are included in the categorical program to incorporate the density of the development and its location with respect to transportation facilities, such as proximity to a Metrorail Station or other public transport system or high occupancy vehicle facility with the cost of implementing specific mitigation strategies. The additional levels of stratification reflect economies of scale and program effectiveness with respect to size and location. Three density thresholds are used for grouping developments by size. The thresholds are detailed below.

Footnotes

1. Less than 100,000 sq. ft. gross floor area
2. 100,000 - 200,000 sq. ft. gross floor area
3. More than 200,000 sq. ft. gross floor area

F.A.R. - The ratio of floor area is an expression of density allowed on a specific parcel of land. A 3.0 FAR on a 10,000 square-foot site would allow 30,000 square feet of gross floor area of development.

Following is a brief description of various strategies of transportation demand management.

Strategies

I. Ridesharing Marketing

- a. Basic to the success of any TDM program are employee education and information dissemination. At a minimum, developments are required to work with the County Ridesharing Program in promoting group riding to persons employed within the development. Strategies include transportation fairs, distribution of ridesharing marketing material to tenants and employees, displaying information material, such as posters, brochures, etc., in common areas, including hallways elevators, restrooms, water fountains, building management offices.

In order to set objectives and monitor performance, employee transportation surveys should be conducted on an annual basis. Surveys are useful in determining commuting patterns, mode split, average commute distance and travel times, employee attitudes, needs, and willingness to switch modes. The data is useful in developing successful transportation programs, such as transit subsidies, and car and vanpool programs.

- b. The results of the employee transportation survey may indicate the applicability of operating a vanpool program. Depending upon site location, the program may entail a shuttle bus system operating between the site and a Metrorail Station or company vans which provide transportation from the suburbs to the site. The uniqueness of the program is commensurate with the need to reduce vehicle trips to the site.
- c. Vanpools generally need to operate at full occupancy (14 riders) to cover their operating expenses. To assist new or potential operators a number of state and local governments provide startup seed money to vanpool drivers. The programs include interest free loans for a specified period of time and passenger subsidies. Developer assistance includes additional loan programs, outright purchase, matching or doubling passenger subsidy programs and backup vehicles.
- d. The success of an employer TDM program is greatly assisted if implemented through an Employee Transportation Coordinator (ETC). An ETC is an employee of the building management team and is responsible for implementing the developer's TDM program. The ETC tailors the TDM program in response to employee transportation survey results. The ETC can be either a part time or full time employee, depending upon the number of employees on-site and the complexity of the TDM program (which may be a function of the degree of impact associated with the development). ETC duties include: TDM program implementation; conducting transportation surveys; managing a preferential parking and transit subsidy programs; and promoting group riding to development tenant employees.

- e. Transportation information stores (referred to as "transit stores") and transportation management associations (referred to as "TMAs") are proposed to be located throughout the Metrorail development corridors. The transit stores and TMAs provide in one convenient location a resource of employee commuter information. Transportation information, such as Metrorail and Metrobus route, schedule and fare information, commuter bus operations, rideshare matching applications, vanpool subsidy programs, is provided to the public on a walk-in basis. Depending upon the category of development, a contribution to a Metrorail Station area transit store may be required if one presently exists or is planned for the area in the future. Three levels of participation are identified - \$5,000, \$10,000, and \$15,000 per year. The term of participation may range from 10 years to as long as the operation exists and should include provisions for adjusting the contributions annually by the Consumer Price Index (CPI) to account for inflation.
- f. In Metrorail Station areas where a transit store has yet to open or in areas not conveniently served by an existing transit store, proposed developments may be required to dedicate commercial area to a new transit store operation. The transit store may be required to be dedicated for as long as the development exists on the site or until a more central and convenient location is dedicated in a future site plan. Transit store contribution obligations provided for in i.e. above go towards operation of the transit store on a collective basis to cover lease costs, staffing and program development.
- g. A reason often cited to not participate in ridesharing arrangements is the need to have a personal vehicle at hand for emergency situations. A number of innovative programs have been developed which provide emergency transportation to one's home or child's school, daycare, etc. Programs include a limited taxi/bus fare subsidy, relaxed company vehicle policies.

II. Preferential Parking Management

- a. Preferential parking programs involve reserving conveniently located parking spaces for car and vanpools. Within multi-story parking garages convenient location is defined as near the elevators and close to the entry/exit points to reduce travel time and distance in the parking garage. The spaces are to be clearly marked "Reserved for car and vanpools." The number of spaces set aside shall be unlimited. At a minimum, 10 percent of the parking supply shall be accessible to vans by providing a vertical clearance of 86 inches.
- b. To encourage group riding, the preferential parking program shall include a parking rate agreement charging market rates for single occupant vehicles. Annual parking surveys shall be conducted to determine local area price structures for determining "market rates" to be charged.

- c. To ensure that parking rates will reflect true market conditions in a competitive environment, lease agreements with parking garage operators are encouraged. Although a set number of spaces may be reserved for a tenant, the cost of an individual parking space is not controlled by the tenant and subsidies are prevented from being passed along to specific persons.
- d. & Parallel to charging full market parking rates, subsidies are
- e. encouraged to promote group riding by both car and vanpools. Depending upon the category of development and the need to reduce single occupant vehicle trips to the site, parking rates for car and vanpools may range from market rate, half-market rate, to no cost (full subsidy).

III. Transit Program

- a. To improve access between Metrorail Stations, office, residential developments, and commercial businesses, many developers have proposed to operate local area shuttle buses. As a larger number of developments in the Metrorail Station areas are constructed and occupied the density required to sustain such transportation operations increases, improving the likelihood of the service being successful. Depending upon the category of development contributions to support the operation of local area shuttle buses may be required, such as the Arlington Trolley. Three levels of participation are identified - \$5,000, \$10,000 and \$15,000 per year. The TMP should also include provisions for adjusting the contributions annually by the CPI to account for inflation.
- b. Depending upon the category of development, a development may be required to operate an employer shuttle bus service. The shuttle bus system would provide improved pedestrian connections between a Metrorail Station and the site. The route and fare structure may be modified over time to include other development sites whose financial participation is obligated by III.a. above.
- c. In addition to increasing the cost of commuting to work in a single occupant vehicle (through charging market based parking rates), subsidizing an employees transit costs can often make the monetary difference required to cause a mode shift in an employees commuting habits. Transit subsidy programs may include the regional Metrorail/Metrobus system, state commuter rail and commuter bus systems. Depending upon the category of development various transit program subsidies may be required. Three levels of subsidy are provided - 25-50 percent, 50-75 percent, and 75+ percent.

IV. On-Site Construction

All developments may be required to dedicate on-site easements to the County and to construct associated roadway improvements adjacent to the site, such as additional travel and turn lanes. "On-site" shall be deemed to include the site itself and all adjacent areas related to the site, consistent with established practice in the County.

- a. All site plan development is required to provide secure bicycle storage facilities in a location convenient to office, commercial or residential development areas. The facilities shall be highly visible to the intended users and protected from precipitation. Additional requirements cover the minimum number to be provided by type (Class I, II, III) and location.
- b. Depending upon the category of development, shower facilities may be required to be provided within the development as an amenity promoting bicycle or walking commuting by employees to the site.
- c. All developments shall be required to provide parking facilities designed in such a way as to ensure access by vanpools. At a minimum, 10 percent of the parking capacity shall be accessible to vans by providing a minimum vertical clearance of 86 inches from the street to the parking areas and to the garage exit onto the street.
- d. Site plans should incorporate into the design adequate short term off-street parking space for delivery vehicles.

V. Off-Site Construction

Whereas the previously discussed strategies may be associated with typical site plan review approval and would be included in part in virtually all site plan reviews, strategies which deal with off-site construction must be viewed as unique and must be addressed on a case-by-case basis. There will be instances where it will be mutually beneficial for the community and the developer to pursue off-site construction. The following strategies are put forth as guidelines which may be discussed as a part of the site plan negotiations dependent upon the scale of development and its relationship to the adopted General Land Use plan.

- a. To improve pedestrian access between the site, Metrorail and other development, proposed developments may find it desirable to enhance the pedestrian system by widening Metrorail corridor sidewalks or providing connections or extensions of a elevated pedestrian skywalk system.
- b. Pedestrian enhancements, such as direct tunnel connections, new station entrances and elevators to the Metrorail System to improve passenger access, protect passengers from inclement weather, and reduce overall travel time by transit, making transit commuting more enjoyable.

Some Metrorail Stations were designed with knock-out panels to facilitate tunnel connections between the system and high density development. Where applicable, all development is encouraged to utilize the knock-out panels which have been incorporated into the Metrorail Station areas. Depending upon the category of development and where appropriate, other system access improvements may be considered.

- c. Local area circulation patterns and intersection levels of service are affected by new development as local traffic enters and exits the street network and merges with through traffic. In addition to constructing improvements adjacent to the site, other desirable improvements may be proposed by the developer depending upon the category of development, including, median closures or openings, signal system upgrading, and intersection geometric alignments.
- d. Depending upon the category of development, substantial new facility construction may be desirable and could be proposed to increase arterial capacity in conjunction with unplanned trip growth. Improvements which could be negotiated as a part of the site plan revision process may include interchange reconstruction, improved entrance/exit ramp designs, and new grade separated intersections.
- e. Depending upon the category of development new Metrorail Station(s) may be proposed by the developer to provide the necessary transit system enhancements to ensure an acceptable level of service to the adjacent street network.

VI. Lease Agreements: Progressive Employee Policies

- a. Alternative work schedules, such as flex time, variable work hours and the compressed work week have been successful in spreading peak hour traffic volumes over the peak period and to reduce traffic volumes two days of the week. Flex time includes staggered and flexible work hours which allows employees to arrive or leave before or after the normal congested commuting period. The flexible working arrangements increases the opportunity of prospective rideshare employees having similar core period working hours. The compressed work week includes working four 10-hour days (4/10), or nine days over the two week period (5/4/9). Generally, with the 5/4/9 plan, employees are off every other Friday or Monday. Depending upon the category of development, developers might require tenants to support innovative work scheduling which limits peak period vehicle travel.
- b. Recent advances in electronics and the vision of the future portrays a substantial growth in telecommuting, decreasing the number of employees who must commute to the site on a daily basis. The "smart" office building of the future will be constructed to facilitate telecommuting by development tenants.
- c. Depending upon the category of development, trip generation restrictions may be incorporated into the development's

approval as site plan conditions. Trip generation restrictions limit the number of vehicle trips allowed to enter or exit the development during a specified period of time, such as during the morning and evening peak hour of the adjacent street. Vehicle trips are monitored on an as needed basis to monitor conformance and a set of fines may be imposed for repeated violations.

- d. A number of business development areas are formulating plans to develop transportation management associations (TMAs). TMAs are partnerships between businesses and local government, created to help solve transportation problems. TMAs provide a unified voice and forum for discussing local transportation issues and priorities, and enable developers and employers to pool resources and address problems on a joint basis. All developments are encouraged to become an active member of an area TMA should one be developed. It is the County's goal to promote the development of transportation management associations, representing the following areas: Crystal City, Columbia Pike, Pentagon City/Pentagon areas, National Airport, Shirlington/Four Mile Run areas, Rosslyn/Courthouse areas and the Clarendon-Virginia Square-Ballston areas.

VII. Monitoring and Compliance

- a. Staff needs to monitor the transportation management plans to insure compliance. Without staff capability, the County will be unable to determine compliance with its requirements for transportation actions. The amounts listed represent private sector contributions to supervising the implementation and operation of the plans.
- b. The county must be able to assure that transportation management plans are actually carried out. For Category D projects, developers will provide a performance guarantee to assure continuing performance. The performance guarantee will be determined by the County Board at the time of site plan approval. The performance guarantee will be in force for at least three years. At that time, if the County certifies compliance with the strategies, the County will not require that the performance guarantee be renewed.
- c. Compliance will also be enforced through the Zoning Ordinance.
- d. Contingent Phasing ties compliance to building permit approvals relating to the phasing of construction for the entire project. Subsequent phases of the project will not be approved unless compliance with the traffic mitigation program is demonstrated.