



MOVE DC POLICY PRIMER

This list represents a limited set of potential policy options that are being considered for the moveDC plan.

MOBILITY

Policy A: Pedestrians are the District’s highest transportation priority.

Well regarded for its innovative approaches to transportation planning and commitment to a balanced transportation system, **Portland** establishes pedestrians as their highest transport priority in its transportation system plan, an Oregon statutory requirement that establishes a long-term transportation vision and a set of priorities for policy and project investment. It uses a street classification system consistent with the more conventional functional classification system of its MPO’s long-range plan, but defines the function of streets in terms of how they are to serve each mode. Pedestrian travel is a consistently high priority as it facilitates access to transit, public spaces, and community facilities.

Denver has also taken recent steps in this direction, with a City Council action declaring pedestrian and bicycle safety would be top Council budget priorities. This was partly in response to a series of high-profile crashes resulting in pedestrian fatalities, but also to a growing understanding that other city and regional investments in other transportation modes—chief among them the substantial transit investment through the Denver region’s FastTracks program—would need to rely on safe and convenient pedestrian access in order to be successful.¹

Policy B: Every non-local street will prioritize walking, accommodate driving and local deliveries, and support one of: protected bicycle facilities (cycle track or side path); dedicated high-capacity transit lane(s); designated freight route; or several modes in simpler accommodation.

The number of streets in Washington, DC is effectively fixed. Aside from certain links that fill in larger blocks (such as the extension of 10th and I Streets being constructed with the new CityCenter DC development downtown), new roads will not be built, which means the existing street network must accommodate all transportation demand. To do so requires all non-local streets to carry a portion of this demand across all modes. While pedestrians are the highest priority on all streets, and vehicle/delivery access should be available to every address, streets will also need to accommodate in protected lanes bicycles or pedestrians or freight along designated routes. Streets without dedicated lanes or designated freight routes may accommodate multiple modes all in shared space.

This policy is similar to the above recommendation for pedestrian priority and as such follows Portland’s approach to prioritizing travel modes, especially with regard to streets. Other cities, such as New York and Philadelphia, have introduced bicycle priority streets that carry major bicycle routes between key parts of their cities. However, in none of these streets is automobile traffic removed entirely, and even in New York’s repurposing of right-of-way for public spaces, limited local vehicle traffic is retained to allow critical deliveries and other service trips.

¹ Denver Post. “Denver City Council sets pedestrian/bicycle safety as top priority for the upcoming budget.” April 16, 2013. Available online at <http://blogs.denverpost.com/thespot/2013/04/16/denver-city-council-sets-pedestrian-and-bicycle-safety-as-top-priority-for-the-coming-budget/94155/>



Policy C: Prioritize trips that start and/or end in the District over trips that use DC as a through route (while maintaining the role of interstate facilities).

The District of Columbia has a network of streets that generally cannot be expanded without removing active land uses, with minor exceptions such as local street connections. This applies both to roadway system capacity as well as new network links: capacity is more or less as high as it will be. To this end, the District needs to preserve this capacity to ensure a balanced system that offers modal choice for residents and visitors within the district. This should guide priority over any trips that use DC as a through route.

Many communities have adopted polities to this effect. Many are large cities that are peers of DC with similar regional commuting patterns, such as San Francisco², but even cities with a more traditionally automobile-focused transportation system, such as the Atlanta suburb of Sandy Springs³, have taken a direction of prioritizing the components of the transportation system that serve local travel and have moved away from past mandates to move traffic through the community.

The District's Interstate highways, although designed primarily to offer access to and from central Washington, nonetheless carry traffic through the district and serve an important regional function. This function should be maintained and the Interstate highway system in the District should be kept in good maintenance.

Policy D: Make unused capacity reserved for 1 mode available, as appropriate, for another:

D1. Bicycling should be allowed on sidewalks on streets with limited right-of-way/space in the street and low pedestrian activity.

One policy that DDOT may consider is using sidewalk space for bicycles in certain kinds of streets. Although typically not practiced in urban areas, certain conditions may make this kind of approach acceptable, including:

- Relatively high traffic volumes
- Limited right-of-way, especially in the traveled way of the street
- Low pedestrian volumes
- Limited (or non-existent) cross street and driveway cuts
- High degree of visibility of sidewalks, especially from intersecting streets and median breaks

D2. Allow bicycles and/or taxis to travel in some protected bus lanes where service runs at medium headways and the roadway is of a moderate grade.

A growing number of communities are using shared bus and bike lanes to give preferential treatment to both bikes and public transport. Paris has been a leader of this practice, with over 100 miles currently in place for bus lanes that allow bicycle and taxi use when buses are not in place. North American examples currently include San Francisco, Tucson, AZ; Madison, WI; Toronto, Ontario; Vancouver, BC; and Philadelphia, PA. Often

² San Francisco General Plan, Transportation Element. Available online at http://www.sf-planning.org/ftp/general_plan/I4_Transportation.htm.

³ Sandy Springs Transportation Master Plan, Recommended Transportation Improvement Strategies. Available online at http://www.sandyspringsga.gov/SandySprings/media/Documents/Public%20Works/Transportation%20Master%20Plan/TranPlan_05-Strategies.pdf.



the lanes are also able to be used by taxis and right-turning vehicles, although this may vary (especially if right turns are disallowed through a priority transit corridor).

Because the dual-mode use suggests that buses and bikes will pass each other in these lanes, lane width is an important issue. The AASHTO Policy on the Geometric Design of Streets and Highways (the ‘Green Book’) does not offer guidance on shared bus-bicycle lanes, and as a result many agencies that have begun using this street design practice have developed standards and guidelines of their own. **Madison, Wisconsin** has indicated a preference for 16-foot lanes to allow a clear three feet of separation between the bicyclist and a passing bus, but if either bus or bike traffic is light and space is limited, the width of a shared lane might be 14 feet or even less.⁴ Other cities that have used this treatment, such as **Baltimore, Albuquerque,** and **Portland,** have allowed narrower lanes (as narrow as 10 feet) to respond to constrained urban street widths.

D3. Weekend closures of travel lanes for additional pedestrian capacity.

Vehicle traffic through the District is highest during weekday commute times. During weekends, volumes are much lower and many streets have capacity that can be repurposed for other uses, including pedestrians, bicycles, and recreational space.

Through its Cyclovia Tucson program, **Tucson, AZ** closes all or portions of streets to vehicle traffic on designated days and dedicates it for use by pedestrians and bicyclists. These programs have been a great success, drawing over 20,000 people in 2013 and garnering widespread support throughout the community⁵.

D4. Go Anywhere, All Day Transit.

Transit is one of the critical options of the District’s transportation network. While the city has a robust transit network, there are places difficult to reach by transit and times with limited service. The District should identify a core area where transit will be a reasonable travel option based on proximity and frequency.

Melbourne Australia’s Transport Strategy Update 2012 established a Go Anywhere, Anytime public transport strategy. Inner Melbourne was designated as a place where reliable and frequent transit would service all day long.⁶

D5. Plan for routes and modes that lead to a District boundary to connect to the network across that boundary.

DDOT should work internally and with its regional partners to prioritize projects that connect across the District boundary so that investments in the transportation system in larger parts of the region align with the capacity and functionality of the District of Columbia’s local transportation system. This applies to roadway improvement projects that help the District to meet local transportation goals and objectives, but also to active transportation projects not on roadways (such as regional trails and paths).

Coordination among these project opportunities can be facilitated through the Metropolitan Washington Council of Governments.

⁴ <http://www.nctr.usf.edu/wp-content/uploads/2012/11/77937.pdf>

⁵ <http://www.cycloviatucson.org/>

⁶ From Consultation To Participation." Future Melbourne Wiki.

<http://www.futuremelbourne.com.au/wiki/view/FMPlan/FromConsultationToparticipation>.



Policy E: Use financial tools and occupancy requirements to maximize the ability of the transportation system to carry people.

E1. Price private vehicle access to the central employment area.

One approach to shifting drive-alone trips to other travel modes is implementing a road pricing system that charges users for driving in the most congested areas. The objective is two-fold: reduce demand for the lowest capacity mode (single-occupancy vehicles) and generate a source of revenue to expand higher capacity modes. The best known examples of this are based on a cordon area and typically involve center cities and the places and times of day with the highest concentrations of travel demand. Where it has been implemented, extensive investment in vehicle detection and payment collection technology has been made prior to congestion pricing taking effect, suggesting a larger scale for which this approach is usually applied.

London's congestion charge program is probably the best known example of this. First explored as early as the 1960s,⁷ London's program took effect in 2003 after further studies in the 1990s both recognized the potential effectiveness of cordon-based pricing and established a link between this pricing and revenue that could be applied for other transportation improvements, principally those that offered alternatives to driving. Initially defined as an area comprising the City of London (the financial district, equivalent in size roughly to downtown Washington) and the West End (an entertainment and shopping area), proposals to increase the size of the pricing area have been made and the price charged to motorists has been increased. Studies after the program's implementation suggest that it has met its objectives, as general vehicle traffic levels have decreased by nearly 30 percent, bicycle ridership has increased, and transit travel times have been reduced.

Bergen and Oslo, Norway have also had center-city congestion pricing in place since the late 1980s and early 1990s, respectively. In each city, geographic limitations greatly limited how the existing roadway network could be expanded through traditional widening measures, but proposed projects to alleviate traffic congestion and improve vehicular traffic flow through the city were prohibitively expensive for local agencies to take on independently. Bergen's program is a simple cordon crossing system that covered an area slightly larger than Bergen's central business district with a limited number of toll gates. The program's stated intent was to raise revenue, not necessarily to deter traffic, and as a result it allowed no effective by-pass routes. The charging cordon therefore covered a wider area than that which was needed solely for traffic reduction.⁸

E2. Manage roadway capacity on entry corridors.

Arterial managed lanes are an emerging practice, studied mostly as a potential approach to congestion management and increasing the reliability of urban arterial networks for those customers willing to pay tolls. They may include dedicated lanes for transit and other non-motorized travel modes or lanes that permit vehicles but restrict single-occupant vehicle use. The purpose of this policy approach in Washington is to control traffic congestion generated by regional traffic entering the District of Columbia but also to allow additional priority to transit vehicles, taxis, cyclists, and other non-single occupant vehicle modes.

⁷ Smeed, R.J. (1964). Road pricing: the economic and technical possibilities. HMSO. The 'Smeed Report' is credited as the first major study of road pricing feasibility in London, and posited a rule that new drivers would not continue to use existing roads if speeds fell below a certain threshold, but that if speeds rose, more drivers would begin using roads until congestion was created. The balance lay in pricing to alleviate congestion so that reasonable travel speeds could be maintained.

⁸ European Commission Intelligent Energy Europe program. *Congestion and Road Pricing*. Available online at <http://transportlearning.net/competence/docs/pricing.pdf>



Managed lanes for tolling and other forms of traffic control on surface arterial streets are still a theoretical practice, as natural limitations of surface streets (namely traffic signals and left turns) preclude an easy application to tolling only portions of a surface roadway. One of the most notable examples of this research has been conducted in Florida, a state with historically high rates of population and traffic growth and a heavy dependence on state-maintained arterial roadways for primary traffic distribution and for access to community-serving commercial property. What the Florida studies suggested is a new design treatment featuring an underpass or overpass that bypasses a signalized intersection. A motorist would pay a toll for use of this bypass facility, allowing a premium use to be assigned to vehicle-based avoidance of traffic congestion and potentially reducing that congestion and facilitating travel by other modes.

Although this policy should not suggest a path to implementation involving costly capital projects, Washington, DC already has several examples of grade-separated roadways at key intersections, especially along major diagonal streets passing through monumental circles. Management of these in a way that adds a cost (whether monetary or in time) to through travel may be an effective way to reduce congestion and safety risk, thus facilitating use of major arterial streets for other modes of travel.

E3. Expand demand responsive parking pricing.

Current practice in parking management understands and emphasizes keeping a certain amount of parking available in a given location to reduce the number of drivers using roadway space (and their own time) to search for parking. A key strategy to achieving this is to set parking prices in a way that preserves some of the capacity at a given moment, even at high-demand locations. Much of this practice has been influenced by the research of University of California at Los Angeles professor Donald Shoup, who argues that underpriced parking spots tend to be full, leading cars to circle in vain looking for spaces, which in turn adds to congestion, air pollution, and distracted driving. The **San Francisco Municipal Transportation Agency (SFMTA)** has begun applying Shoup's principles and has initiated one of the most comprehensive approaches to parking management through its **SFpark program**, a system of dynamic parking pricing that responds to demand and seeks to maintain available parking inventory in high-demand areas.

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Under SFpark, parking spaces throughout the city will contain sensors that give real time digital information about whether the space is occupied and for how long. The sensors will be wired into a database that coordinates parking across San Francisco. Information is compiled at a block-by-block level and available via the web, smart phone applications, text messages and roadway signs. In order to keep an optimum amount of parking available throughout the city, the hourly parking rates will be raised or lowered in response to demand. The changes in price will occur no more than once a month and be published in advance. The goal is to set a pricing level that will keep from 10 to 30 percent of spaces in a given area vacant.

The San Francisco Municipal Transportation Agency received a \$19.8 million grant from the U.S. Department of Transportation's Urban Partnership Program, which amounts to 80 percent of the SFpark project costs. The remaining 20 percent of the program comes from the agency's budget.⁹

⁹ Transportation For America, Smart Transportation Case Study #4: Dynamic Parking in San Francisco. Available online at <http://t4america.org/blog/2010/10/12/smarter-transportation-case-study-4-dynamic-parking-pricing-san-francisco/>.



E4. Consolidated fare media (WMATA, Circulator, CaBi, Commuter Rail).

The use of consolidated fare media, or unified payment options that allow use of a wide variety of transit and travel services with a single medium, greatly facilitate the use of other networks by making it easy for people to pay, all using one payment system. This can also streamline payment, facilitate automated billing and fare collection, and potentially allow savings on individual fares and trips. Examples include the **Clipper Card** for the various transit agencies of the **San Francisco Bay area** and the **ORCA card** in **Seattle and the Puget Sound region**, both of which allow a single card to provide fare collection for commuting trips that may take place over multiple services.

A consolidated payment system should be considered for all transit agencies serving the Washington, DC region, including regional commuter rail, regardless of operator. Although pricing for the Capital Bikeshare system is currently managed through individual subscriptions and a separate key access system, future upgrades to this system should explore opportunities for consolidation so that this can be included in a multi-system transit pass, helping any pricing for last-mile connections from transit to be fully integrated for users.

E5. Bulk fare media purchases for organizations.

One common approach in transportation demand management is the use of bulk purchases of transit passes, farecards, and other fare media for organizations. This allows an individual end user to pay a lower price for transit fares, even beyond any discounts realized by purchasing passes over individual fares, thus further increasing employee incentive to use transit as an alternative to driving. This also provides the transit agencies with up front funds at a lower marginal cost than individual fares paid on the day of travel.

Pricing and management of these bulk fares are typically organized by the transit service providers and not a local government, though some local government policies have committed public agencies to participate in these programs.

E6. Require large employers to provide pre-tax transit benefits.

Across the United States, many municipalities promote pre-payment of fare media for individual users where bulk transfers are not economically feasible or where there is not sufficient interest. The most common approach to this is through payroll deductions that are exempted from tax liability. The next step is to require employers of a certain size to offer this benefit (San Francisco's ordinance is for all businesses with 20 or more employees nationwide to offer this benefit to their employees¹⁰). This, in conjunction with TDM requirements in development review, should be explored as a way to actively reduce the number of drive-alone trips that new developments generate.

E7. Partner with local community organizations to increase CaBi membership

DDOT currently partners with Bank On DC to encourage community member to participate in the benefits of bikesharing. All current and new Bank On DC account holders are eligible for a discounted Capital Bikeshare annual membership of \$50. This program directly addresses concerns about residents unable to participate in CaBi due to lack of a credit card or the cost of membership. This program should be expanded in low-income neighborhoods by working with additional local businesses and community groups

¹⁰ <http://www.sfenvironment.org/article/businessesemployees/san-francisco-commuter-benefits-ordinance-overview>



E8. Manage commercial vehicle loading zones (with freight villages, space reservations, and encouragement of off-peak use) to help increase available capacity.

Although many of the policy points described above address the critical importance of shifting drive-alone trips to other travel modes, freight access needs must also be integrated so that freight can reach necessary destinations, but not in a way that impedes overall system balance or endangers the users of other modes (especially bicycles and pedestrians).

Urban areas around the United States—and indeed, around the world—have had to address the dramatic increases in freight movement in the last twenty years. Globalized production models and supply chains have meant that goods manufactured overseas must be distributed back to markets where they are consumed, which has increasingly been through low-cost container shipping, and just-in-time delivery models and reduced on-site inventories at supply locations have meant an increased need for quick and regular shipments to many different points. These have both led to a substantial increase in truck traffic, and many urban areas lack a dedicated system of infrastructure to accommodate large trucks and other heavy vehicles.

Emerging practices in how to achieve this balance include the use of freight villages, or intermodal distribution facilities that concentrate very large vehicles and allow transfer to smaller vehicles, to rail, and to other modes that may fit better into an urban transportation system for distribution to their final destinations. Freight villages are widely used in European countries, with the first facilities appearing along with the rise of trucking for freight movement after World War II. Well-known examples in the United States include the **Raritan Center** in New Jersey and the **Cumberland Valley Business Park** in Pennsylvania, both of which serve the greater New York region.¹¹

With what is probably the most active commercial center in the United States in Midtown Manhattan, **New York City** implemented a series of changes to its curbside management for freight vehicles in order to maintain the efficient flow of goods and services. NYCDOT's *Commercial Vehicle Parking Plan* defined several curbside management strategies to address a limited number of loading/unloading zones available, use of these spaces for long-term parking, and the resulting double parking. The general approach was to increase available curbside space but reduce the amount of time by which individual spaces are to be occupied by a single vehicle, and increasing enforcement to ensure that the needed turnover was happening.

These combined approaches can help to reduce the footprint of freight movement in urban areas like the District of Columbia and help to balance freight needs with those of the rest of the transportation system. DDOT has already made significant progress in curbside management for freight, having developed a Downtown Curb-Space Management Plan in partnership with the Downtown DC and Golden Triangle Business Improvement Districts. This included an extensive inventory of commercial loading zones in downtown Washington as well as changes to specific locations of loading zones (moving them, for example, to the approach ends of blocks where possible in order to lengthen the zones and to minimize double-parking and vehicle movement friction against moving traffic). It also extended enforcement of spaces so that smaller trucks and commercial vans did not use the loading zones for parking for extended periods of time.

Overall, DDOT should continue the efforts started in the Downtown Curb-Space Management Plan and the ongoing citywide Curbside Management Plan and seek to improve freight movement opportunities.

¹¹ New York University Rudin Center for Transportation Policy and Management, *Feasibility of Freight Villages in the New York Metropolitan Transportation Commission Region*. Available online at http://www.nymtc.org/project/freight_planning/frtvillage/frtvillage_files/task_3_report_april_2009f2.pdf.



PLACEMAKING

Policy F: The physical environment encourages active living.

Several cities around the United States have begun to adopt policies and guidelines for physical design that promotes active living. **New York City's** Active Design Guidelines were developed in response to the increasing public health concerns of obesity and Type 2 diabetes, and they seek to identify clear areas of change in the built environment that could promote more regular use of walking, cycling and generally increased physical activity as ways of moving around. The New York City Health Department partnered with other city agencies for this initiative, including the Departments of City Planning and Transportation, in order to identify potential capital projects that could be used to demonstrate more active living patterns and to identify areas of policy that may be leading to insufficient physical activity. This resulted in one of the Guidelines' four chapters focusing on urban design, identifying elements of street design (such as sidewalks, bicycle lanes, and intersection and midblock crossings) intended to facilitate increased pedestrian and bicycle activity.¹²

Policy G: Create great places through beautification and public art of the transportation network.

Sometimes there is not a formal policy on how to repurpose transportation infrastructure, but there is an established practice. **New York City** is arguably the national leader of repurposing transportation right-of-way to serve as public space, usually by removing excess travel lanes and auxiliary lanes near intersections and converting the space to hardscaped plazas. Through the Public Plaza Program, New York City Department of Transportation (NYCDOT) works with selected not-for-profit organizations to create neighborhood plazas through transforming underused streets into public spaces, typically in early steps through the use of paint, texturing materials, and other low-cost, low-effort applications that may later be programmed as more extensive capital projects. The Public Plaza Program is a key approach to achieving an overall city objective that all New Yorkers live within a 10-minute walk of quality open space.

Perhaps the best known example of this practice is the conversion of Broadway in Midtown Manhattan. Between 2008 and 2009, NYCDOT closed multiple travel lanes on Broadway between Columbus Circle and Madison Square Park and introduced buffered bicycle lanes, public plaza seating, and raised planters to help define the Broadway right-of-way as public space. This set of improvements was also applied to Union Square in 2010, with lane reductions, changes to signal timing and extensions of plaza space.¹³

Washington, DC has begun to explore this approach in selected areas, with recent curb extension projects at 7th and K Streets NW (at the southeast corner of Mount Vernon Square) and at 6th and I Streets NW (adjacent to Seaton Park).

¹² Presentation on New York City's Active Design Guidelines: Translating Research into Policy and Practice. Available online at <http://activelivingresearch.org/new-york-citys-active-design-guidelines-translating-research-policy-and-practice>

¹³ New York City Department of Transportation, Broadway: Union Square Proposed Safety Improvements Fact Sheet. Available online at http://www.nyc.gov/html/dot/downloads/pdf/20100426_broadway_union_sq_factsheet.pdf.



Policy H: Protect the physical environment through Low Impact Design to reduce heat islands, and improve air and water quality.

Incorporation of Low Impact Design into District streets will be consistent with the efforts of the District Department of the Environment, which seeks to reduce stormwater runoff pollution and has in place a vigorous stormwater program and stringent citywide regulations. Major DOE initiatives include significantly reducing stormwater pollution flowing into the area's waterbodies by making the land "spongier" and create financial incentives for installation of stormwater retrofits.

Portland, Oregon is arguably the national leader in innovative stormwater best management practices (BMPs) to improve water quality. In the 1970s, Portland began charging a separate stormwater utility fee to help pay for stormwater management costs, and in the intervening years has used funds generated from that fee to develop new management techniques designed to reduce overall long-term costs of management, both to the city and the individual user. Beginning in the early 1990s, Portland's Bureau of Environmental Services (BES) has developed a multi-faceted, highly successful program that achieves not only regulatory compliance, but also education, outreach, and community greening and beautification. In the early 2000s the City Council established a reward system for ratepayers who keep stormwater from leaving their property. This program, called Clean River Rewards, offers residential ratepayers a discount of up to 30 percent of their stormwater fee obligations based on the extent to which they can manage runoff from roof areas. Commercial customers can claim a discount for managing runoff from both roof and paved areas. Additional credits are offered for having a small impervious footprint, creating or maintaining tree coverage, disconnecting downspouts, installing rain gardens or drywells, and other low impact development BMPs. The City makes the various retrofit options known to residents and businesses by hosting an online technical assistance page and offering workshops tailored to residential and commercial customers.¹⁴

Philadelphia is also emerging as a national leader in this trend. The City of Philadelphia, under a consent decree from the Environmental Protection Agency, has developed a plan for stormwater management that greatly emphasizes on-site collection and infiltration and seeks to reduce demand on the city's 'hard' infrastructure of underground pipes and tanks. "Green City, Clean Waters" is Philadelphia's 25-year plan to protect and enhance the City's watersheds by managing stormwater primarily with innovative green infrastructure. As the City agency charged with ensuring compliance with the federal Clean Water Act, the Philadelphia Water Department (PWD) developed "Green City, Clean Waters" to reduce its combined sewer overflows (CSOs), manage its stormwater runoff and associated pollution, and provide a clear pathway to a sustainable future by using green stormwater infrastructure systems that assist or mimic natural processes. Many of these are located in public rights-of-way, with rain gardens, bioswales, and catchment basins located within the footprint of conventional street features (such as parkway planter strips adjacent to curbs and in on-street parking stalls). PWD plans to invest approximately \$2.4 billion in a combination of both treatment plant upgrades and green stormwater infrastructure over the next 25 years to fulfill this plan, and nearly half of stormwater runoff is to be addressed through green methods and will not enter into the City's central system.

The stormwater regulations ensure that Philadelphia has a progressive and effective stormwater program that meets state and federal requirements while also coordinating with the changing regulations occurring in upstream municipalities.

¹⁴ http://www.werf.org/liveablecommunities/studies_port_or.htm.



CITYWIDE OPPORTUNITIES

Policy I: Identify all funding and delivery options for construction and operations of the transportation system.

I1. Public-Private Partnerships in Infrastructure.

Public-Private Partnerships (PPPs or P3s) are an increasingly popular method of financing major infrastructure projects. The combination of funding from public and private sectors can significantly expand government agencies' purchasing power for projects.

An important dynamic of successful PPPs is the ability of government agencies to identify the potential for return on investment in order to make a business case for attracting private financing.

PPPs often use the design-build-operate-maintain (DBOM) model as an integrated partnership that combines the design and construction responsibilities of design-build contracts with operations and maintenance. A single private sector entity is selected with a single contract, with financing secured by the public sector. This project delivery approach is also known by a number of different names, including "turnkey" procurement and build-operate-transfer (BOT). DDOT has been utilizing this process on recent District projects, including the 11th Street Bridge and the H Street Streetcar Line.

A Federal Transit Administration survey of eight PPPs for transit projects found that the surveyed projects were operational one to six years earlier than planned, and realized cost savings of \$1 to \$38 million.¹⁵ As with design-build and design-build-operate-maintain project delivery (both described below), PPPs also reduce the need for separate bids at each project stage, and private companies in a PPP often bid for a project with a fixed fee and thus do not require time for lengthy negotiations of financial terms.

PPPs occur most commonly at the state level, as state transportation agencies typically retain ownership of large infrastructure, although they can occur at the local level as well when permitted by state statute. One example is the Reno Transportation Rail Access Corridor, which is a railroad corridor that was constructed to ease congestion and air quality issues that stemmed from a major freight rail line passing through downtown Reno and crossing streets at grade. The city partnered with the Union Pacific Railroad, the freight line's owner, to create a 1.75-mile long, 33-foot deep trench that would carry trains under local streets. What were once at-grade rail crossings are now bridges, which have resulted in less congestion and delays for automobiles, thus improving overall air quality and travel conditions.

I2. Regularly evaluate the role of the District's infrastructure in regional economic development to help generate regional support for DC-based transportation projects.

The District of Columbia's transportation infrastructure may be located within the city's boundaries, but it serves as the nerve center of the region's mobility. Investments that the District makes improve access to the Washington area's largest employment center (and the largest in the United States outside of New York) and undoubtedly benefit residents of neighboring Maryland and Virginia by maintaining a functional and reliable transportation system in the city.

The long-term viability of DC continuing to make these kinds of investments is closely tied to making a regional business case for their benefit to the entire region. This may not yield direct financial assistance

¹⁵ Federal Transit Administration, Report to Congress on the Costs, Benefits and Efficiencies of Public-Private Partnerships for Fixed Guideway Capital Projects. Available online at http://www.fta.dot.gov/documents/Costs_Benefits_Efficiencies_of_Public-Private_Partnerships.pdf



from the other states, but it can help to guide discussions of how to prioritize transportation projects in regional long-range plans, how Maryland and Virginia may be able to offset DC's outlay of resources through increased support for transit operations or other regionwide contributions, and how these states can help DC in appealing for federal funding assistance that benefits the entire region.

WMATA has already taken similar steps, developing a report that helps to make the business case for transit and presenting this argument from multiple angles.¹⁶ This report presents data on transit's effects on municipal tax base near stations, the access to jobs that it provides for riders, and the savings that it offers to Washington-area households. Most importantly, it compares these data to the cost to taxpayers and the lost opportunities for economic development that would result were it not for the Metrorail system.

Minnesota's Twin Cities have also made a similar effort through the Itasca Project, a business community-led initiative that seeks to identify ways to improve quality of life and increase economic competitiveness for the Minneapolis-St. Paul region. Itasca developed a study of the returns that the region can expect on transit, estimating internal rates of return on transit investment in the region to be from 8 to nearly 21 percent, and the potential for employers to have non-automobile access to another 500,000 employees.¹⁷

As the District of Columbia continues to mature as a city, it will make transportation investments that fill in a finer grain than what the Metrorail system provides within the District's boundaries. These investments are no less important in providing urban mobility and should be understood as a part of a coherent regional system that allows metropolitan Washington to have one of the most dynamic, prosperous regional economies in the nation and the world.

I3. Help start a regional infrastructure bank for mega-projects.

Usually practiced at the state level or regional level, infrastructure banks are an emerging practice in transportation funding. Transportation agencies are able to borrow at reduced interest from an infrastructure bank financed by the state legislature. This can help to fund and deliver projects that are critical to a state's or city's development that could not otherwise fit into fiscally constrained programs.

The Federal state infrastructure bank (SIB) program currently in place was established in the SAFETEA-LU transportation bill, although SIBs have been allowed in some form since the mid 1990s. This allows states to establish infrastructure-specific revolving funds in partnership with USDOT and for these funds to be capitalized with Federal funding. They allow loans at reduced rates, financing of bonds, credit lines, bond insurance, and other loan guarantees.

Washington, DC's state-equivalent status means that it may be able to develop such a program. In doing so, its greatest particular opportunities may be in the ability to use SIB funds to leverage other funding sources, including private funds (refer to the section on PPPs below). Among the more than 30 states that have infrastructure banks in operation, there are valuable lessons learned that point to how these could work for the District of Columbia. **Florida's** infrastructure bank has loaned over 10 percent of the \$1 billion it has been funded so far to transit projects—including the SunRail commuter line in the Orlando metropolitan area, and this project is expected to generate several hundred million dollars in private investment. The District of Columbia's emphasis on transit projects, including its currently-planned streetcar system, is a prime opportunity to capitalize local DC funds with Federal funding through DC's state status.

¹⁶ Washington Metropolitan Area Transit Authority, *Making the Case for Transit: WMATA Regional Benefits of Transit*. Executive summary available online at <http://planitmetro.com/wp-content/uploads/2011/12/WMATA-Regional-Benefits-of-Transit-12.12.2011.pdf>.

¹⁷ Itasca Project, *Regional Transit System: Return on Investment Assessment*. Available online at <http://www.theitascaproject.com/Transit%20ROI%20exec%20summary%20Nov%202012.pdf>



Policy J: Create dedicated transportation funding/lockbox for capacity expansion.

Creating a dedicated funding source and protecting it from diversions of funds to other purposes is an important step in establishing long-term political commitment to creating a city competitive on the national and international scales.

At the state level, the move toward funding lockboxes has come as much needed maintenance of infrastructure and enhancements to public transportation systems have been deferred due to funds being transferred to other uses, sometimes in high-profile occurrences where key events have coincided with transportation funding shortfalls due to diversion of resources. Action to establish lockboxes has either been through legislation, as occurred recently in **Connecticut**¹⁸, or through voter referendum, as has been proposed for an amendment to the **Maryland** state constitution. The lockbox itself is typically a procedural rule that specifies conditions to be met in order for dedicated transportation funds to be used for other purposes. Under the proposed Maryland lockbox, this would be a three-fifths vote in both legislative houses and a declaration of a state of fiscal emergency by the state governor.

Multiple transit agencies around the United States are funded at least partially with dedicated sources such as sales taxes, payroll taxes and portions of regional motor fuel taxes, and the creation of a separate agency facilitates the exclusive use of these funds for their intended purpose. When transportation is the responsibility of a general government agency with other responsibilities (and control of a series of funds), the lockbox legislation needs to define terms in which use of dedicated transportation funds can be made and establish standards for public transparency on where funds will be applied.

Policy K: Transportation education at all levels.

Safer streets require more than physical improvements; they also require all users to understand their own responsibility to safely use the system for themselves and all others. A key approach to achieving this is safety education that is well-integrated into school curricula from a young age and day-to-day communication, as well as ongoing education through the Department of Motor Vehicles and other venues.

Burlington, Vermont began an annual pedestrian safety campaign in 2006 that sought to reach a broad audience—of both pedestrians and other mode users, and of all different ages—to raise awareness of the city’s desire to promote a safe and walkable environment and to help pedestrians understand their responsibilities and practical skills for getting around on foot. The substance of the campaign’s public messages was based largely on the Federal Highway Administration’s Pedestrian Safety Toolkit. For the education component of this campaign, the City broadcast public service announcements over radio and television and displayed on safety slides at the downtown cinema. The City’s Department of Public Works collaborated with the Mayor, police, and local advocacy organizations to develop press releases and hold press conferences highlighting safety initiatives, using the media outlets mentioned previously to spread the message.¹⁹

Closer to Washington, **Rockville, Maryland** created a bicycle education program, funded by the Maryland Highway Safety Office, to develop a Pedestrian and Bicycle Safety Education program for school-age children. This program begins with basic pedestrian principles (for children in kindergarten through the second grade) and follows with bicycle principles (in third through fifth grades), providing an ongoing exposure to these ideas.

¹⁸ Tri-State Transportation Campaign. “Connecticut raids transportation funds – for the last time?” Available online at <http://blog.tstc.org/2013/06/06/ct-budget-raids-transportation-funds-for-the-last-time/>.

¹⁹ <http://www.burlingtonvt.gov/DPW/Transportation/Bicycling-and-Walking/Safety---Regulations/>



In addition to safety for bicycle and pedestrians that may not transfer to other modes during their travel, many transit agencies around the United States have used media advertising and public service announcements as a way to raise public awareness of transit as a travel option. These are intended to promote transit use through explaining how to use the system and offering greater understanding of the costs and commitments relative to other travel modes (especially vehicles).

Programs such as these, when offered at the school level, introduce public transportation use to a young audience, and at a critical time when they are less likely to have access to vehicles. **Snohomish County, Washington's** two transit agencies, Community Transit and Everett Transit, have featured several innovative programs intended to promote awareness of public transit and raise community interest. These include interactive media programs through a local children's museum, demonstration days at local schools, and print media that makes transit use easy to understand for a broad audience of all ages.

What is critical to these programs is a partnership with the school district to ensure that public transit education programs are well integrated into a curriculum and not simply addressed as optional information for parents, teachers, and students to explore if they so choose.

Policy L: Enforce the rules of the road for all users.

Safety is the most basic standard for a transportation network. DDOT has long identified safety as their core mission, supporting a culture of safety for all modes throughout the District, and encouraging respect for all users by all users. This effort should will be continued through all of DDOT's work and can be expanded to make it easy to use the system safely through design and education. This also includes coordinating with enforcement agents, so they are well trained in the safety requirements for all transportation user groups.

Policy M: Zero emissions vehicle policy with electric charging vehicle infrastructure.

The transportation sector is one of the greatest emitters of air pollution, so zero emission engines are an area where transportation policy can have a direct impact on improving the environment. Plug-in electric vehicles that use electric batteries charged from an external source are a significant opportunity to maintain current personal mobility while reducing auto emissions to effectively zero. To encourage consumers to purchase electric vehicles, the State of Illinois (with support from the Federal government) has put in place multiple programs to stimulate growth of the electric vehicle industry and make clean driving more affordable²⁰. For electric vehicles to become a viable element in the District's transportation network, charging infrastructure would be needed throughout the city. Utilizing federal stimulus funding, electric vehicle chargers are being installed throughout the New York City metropolitan, including commercial parking lots²¹. DDOT's Electric Vehicle Fleet Program is working to bring hundreds of electric cars and charging stations to the District.

Policy N: Include Transportation Demand Management (TDM) programs in all property development projects (as of right or requiring special approvals).

DDOT has already made extensive strides in integrating transportation demand management (TDM) approaches into its development review process for projects requiring Zoning Commission approval. This recommendation was first made in a 2010 report on TDM and development review (*DDOT Incorporation of TDM in the Development Review Process*), which included a series of action items for implementation.

²⁰ <http://pluginchicagometro.org/incentives-for-ev-drivers/>

²¹ <http://www.nyc.gov/html/ev/html/city/city-initiatives.shtml>



The effects of TDM are well understood, especially that it:

- Reduces the strain on existing transportation infrastructure, helping it last longer;
- Reduces the demand for new roads and parking, freeing up resources and space for jobs, housing, parks and other amenities;
- Maximizes the use of existing public transit services and investments;
- Supports the economy with increased commute flexibility and increased access to and visibility of local businesses;
- Improves the environment by reducing emissions of greenhouse gases;
- Improves public health by reducing emissions of particulate matter and offering transportation options that increase physical activity.

The next step in increasing the effectiveness of local TDM programs is to ensure they're provided for all development projects, not just those requiring zoning approval. This would establish TDM as a transportation requirement equally as important for site access as curbs cuts, with different quantities of TDM programming required for different development intensities and in context with the transportation options available within any given neighborhood.

Arlington County has developed similar policies to those recommended in the DDOT report mentioned previously. Transportation Demand Management for Site Plan Development is an Arlington County Commuter Services program that coordinates the design and construction of large development projects with commuter and transit service to enhance the mobility of residents, workers, and visitors. TDM for Site Plans works directly with developers and property managers to mitigate the transportation impacts of residential and commercial development; its focus for this mitigation is increasing the availability, awareness, and use of transit, ridesharing, carsharing, biking, bikesharing, and walking.

Santa Monica, California is another long-time leader in incorporating TDM policies into development review and approval. The City of Santa Monica adopted Transportation Management Plan [Ordinance 1604](#) (TMP 1604) in 1990 in an effort to reduce traffic congestion and improve air quality. The Ordinance affects employers with ten employees or more and focuses on reducing the number of employee commute trips generated by Santa Monica employers, and it follows a multi-level framework of requirements (depending on the number of employees at a particular organization) as follows:

- All employers are required to submit annual trip reduction plans to the City government.
- Employers of 10 to 49 employees are required to attend a City-sponsored workshop and submit a plan to the City each year detailing approaches to emission reductions, including how the employer will provide all employees with transportation and ridesharing information.
- Employers of 50 employees or more are required to designate a certified Employee Transportation Coordinator (ETC) and submit one if two different types of ERPs:
 - *Employee Trip Reduction Plan (ETRP)*
An Employee Trip Reduction Plan (ETRP), an incentive-based plan which focuses on reducing employee trips to and from the worksite. After leading a survey of employees and determining how many use vehicles to get to work, employers identify incentives and marketing strategies that will encourage their employees to rideshare to and from work rather than drive alone. Employers must submit a plan to the City that clearly identifies a path to achieving 1.5 employees per vehicle.²²

²² <http://www.smgov.net/Departments/PCD/Transportation/Employers/>



– *Emission Reduction Plan (ERP)*

The other option for employers is to purchase emission credits from a state-certified broker in lieu of an ETRP. Employers must survey employees to determine the rate of vehicles driven to employees commuting and purchase emissions credits to bridge the shortfall between current employee-vehicle ratios and the City target of 1.5.

Santa Monica also follows California state regulations that any employer of 50 employees or more must provide a parking cash-out option, or offering an employee the option of accepting the entire cost of any parking subsidy associated with providing parking in exchange for forgoing his or her parking space, to its employees; in Santa Monica this option must be included in an ETRP. If an employer does not subsidize any employee parking, employer owns their own parking, or has their parking bundled in their lease, they are exempt from these parking cash-out requirements.



DDOT OPERATIONS

Policy O: All transportation investments should be State of Good Repair Projects, too.

This strategy seeks to align project programming and funding between projects intended to bring the transportation system to a State of Good Repair (SGR) and new construction and enhancement projects. The purpose of doing this is not only to combine funding sources and realize efficiency in project delivery, but also to demonstrate an agency commitment that repair and maintenance of the transportation system are just as important as major changes to it.

SGR refers to maintenance and rehabilitation projects that keep infrastructure in a sound and functional condition and offset the need for more costly, extensive maintenance into the future. The logistical needs of these projects, such as maintenance of traffic, mobilization of work crews and equipment, and potential temporary impacts on parallel infrastructure systems (such as utilities) represent project costs, and to the extent that other adjacent or connected projects can be integrated into the SGR project, an overall cost savings may be achieved by reducing the outlay of resources needed for these supporting functions of project delivery. Berkeley, California is one example of this kind of a policy in action, as the City coordinates its five-year resurfacing program with projects that extend the overall utility of the transportation system by offering other modal options or enhancements to other parts of the street and right-of-way (such as sidewalks and bicycle facilities).²³

Policy P: Further formalize the data collection, evaluation, and monitoring program within DDOT.

Unified data collection and monitoring programs are a key means of identifying where changes to the transportation system are needed, universal application of policies and standards, and informed evaluation as to what is most effective after implementation. DDOT should establish a program across its different administrations to allow consistent data formats, regular updates, and systematic means of evaluation and monitoring of transportation system performance. This policy also includes making public access to as much non-personal or non-proprietary data as possible in real time or close to it.

Arlington County's Data Collection and Analysis Program is a comprehensive transportation data collection effort that focuses on traffic data. It collects vehicle traffic counts as part of an annual counting program, which allows it to identify and respond to changes in traffic patterns in order to reduce accidents and alleviate traffic problems. This program also collects and analyzes vehicular and pedestrian traffic accident data for the purpose of identifying safety deficiencies and needs, suggesting operational and capital project responses to address key safety issues.

In **Philadelphia**, a city with an even greater mix of travel patterns between expressways, surface street transit, and local streets than Washington DC, the City found that it was not economically feasible to maintain an independent program in their Streets Department, and that it was more economical to hire the Delaware Valley Regional Planning Commission (DVRPC), the Philadelphia region's MPO, to perform their required data collection. This suggests that a certain critical mass of data collection is necessary to realize benefit out of the costs applied to a program, as well as a need to utilize equipment and personnel. DVRPC makes extensive use of equipment and crews, with a traffic counting program in operation every day of the year.²⁴

²³ <http://www.berkeleyside.com/wp-content/uploads/2013/07/2013-07-18-Scorecard-and-Process-final-draft.pdf>

²⁴ Federal Highway Administration, *Case Studies of Traffic Monitoring Programs in Large Urban Areas*. Available online at <http://www.fhwa.dot.gov/ohim/casemon.pdf>