

Beltway Connections

Volume 1

Newsletter of the Maryland Capital Beltway HOV Study

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Improving Washington's Main Street

Few people who regularly use the Capital Beltway question the need for improvements to Washington's "Main Street". When asked, people cite countless examples in which they contend with daily rush hour congestion, speedway driving behavior, and sharp curves that often make driving on the Beltway difficult at best. The Maryland Department of Transportation has documented those conditions which justify the need to improve the Beltway Corridor in what is known as the *Purpose and Need* statement.

The Capital Beltway has three basic issues to be addressed by the ongoing improvement study:

- ◆ Traffic Congestion
- ◆ Safety
- ◆ Regional Growth

Traffic Congestion on the Capital Beltway is a function of a variety of factors. The Capital Beltway is the primary transportation corridor linking a number of suburban communities and radial transportation routes from the outer counties to the Washington Metropolitan Region. Unfortunately, Beltway users have very few mass trans-

sit and highway alternatives for travelling these popular commuter and commercial routes. Regional travel patterns have shifted and are expected to continue to shift away from the typical "radial" (suburb to central city) trip to the "circumferential" (suburb to suburb) trip. This combination of these factors has contributed to

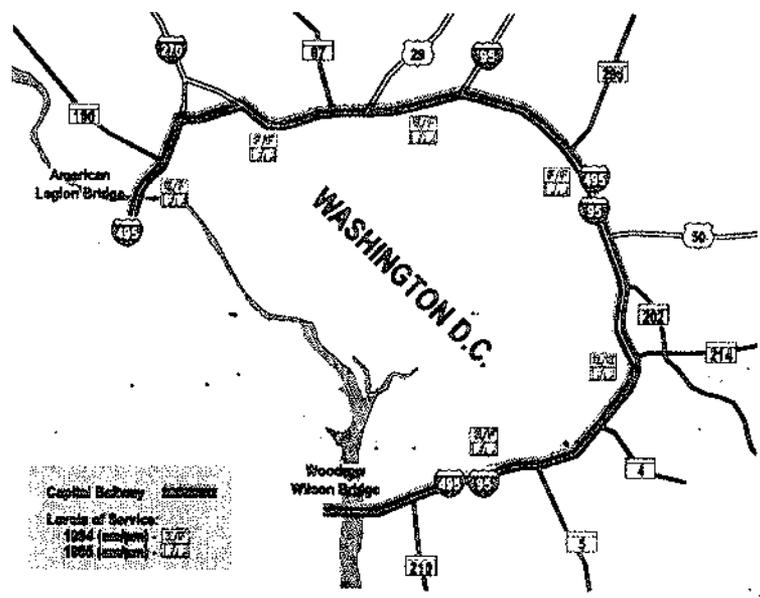
Regional Growth

Regional growth patterns through the year 2020 project significant increases in population and employment. This growth is expected to be most pronounced in the region's suburban communities, and even more so in the region's outer suburban communities. Travel patterns will thus tend to be more suburb-to-suburb in nature, adding to the demand for circumferential transportation facilities such as the Capital Beltway.

Investing in nontraditional transportation modes, including mass transit, high occupancy vehicle (HOV) facilities, and non-motorized vehicle transportation is a priority given a number of issues facing the region. These issues include the need for the region to come into "attainment" with the air quality standards set by the United States Environmental Protection Agency (EPA). The region also must accommodate the growth in transportation demand projected within highly constrained available funds to support this growth. These issues are discussed in the fiscally constrained

Long Range Plan for the National Capital Region (CLRPP), a cooperatively developed twenty-five year transportation plan that is published by the Metropolitan Washington Council of Governments.

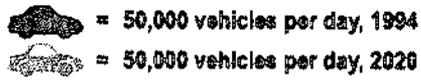
The combination of issues presented by the CLRPP and those presented by the Capital Beltway Corridor itself significantly challenge transportation planners to identify innovative solutions to improving mobility on the Beltway.



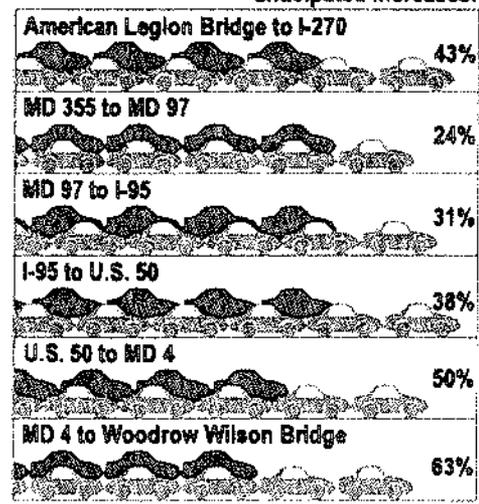
congested conditions in which very slow (Level of Service "E") or gridlocked (Level of Service "F") traffic conditions are typical during morning and evening rush hour periods. These conditions are expected to worsen in the future.

Safety

Despite public perception that accidents are an increasing phenomenon, accident rates have actually fallen since 1990. Nevertheless, accidents on the Beltway continue to be an ongoing concern for the region. In January 1994, the Capital Beltway Safety Team was created to develop recommendations to improve Beltway safety. Some of the recommendations from these highway and enforcement experts have already been implemented. Others are being considered by this study.



Existing & Projected Average Daily Traffic volumes Along the Beltway:



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Progress Report:

Alternatives Under Consideration

Strategy Definition and Screening

During most of 1995, Maryland and Virginia transportation officials worked to identify and assess a similar set of possible improvement strategies for the Capital Beltway. Maryland ended up with 16 different improvement strategies that ranged from significant capital improvements (light or heavy rail, HOV lanes, ramp metering) to less significant capital improvements and system management approaches (improvements to traveler education and information, safety improvements to existing roadway, congestion pricing/tolls). The process for assessing these strategies included an enormous coordination process completed by two days of general public informational workshops held in Montgomery and Prince George's counties last October. These workshops gave officials a good idea of what the public thinks is important to be addressed on the Beltway and how the study team should try to accomplish its tasks. Overall the team received a good deal of public support for the strategies they identified. Many people provided useful insight as to how and where to implement these strategies.

Alternatives Selected for Study

Based largely on the input received during the coordination process, officials have made initial steps to combine these strategies into separate alternative packages for more detailed study. Over the next few months these alternative packages may change significantly as they are reviewed by various interested parties, including the general public, and as efforts begin to measure the overall effectiveness and cost-effectiveness of these packages. Public meetings on the refined alternative packages will take place late this summer. The seven basic alternative packages are as follows:

Base Case

For the purposes of evaluating and comparing the proposed alternatives, a "base case" will be used. This includes all future projects through 2020 identified in the fiscally constrained *Long Range Transportation Plan for the National Capital Region*. The base case scenario is assumed to be a component in all of the following alternatives.

TDM/TSM

Transportation demand management (TDM) and transportation system management (TSM) techniques identified through the screening process were combined into this alternative. Specific components to this strategy include: improvements to traveler information, education, and enforcement; enhanced bus transit; truck restrictions on certain lanes; improvements to the Park and Ride lot system; and other actions to encourage ride sharing, carpooling, transit, and other alternatives to SOV (single occupancy vehicle) highway travel. A TDM/TSM component will be an integral part of all of the remaining "build" alternative packages as a means to enhance their effectiveness. The details of these TDM/TSM "enhancements" will be defined as the alternative packages are refined and finalized.

Ramp Metering

Ramp metering will improve Beltway traffic flow by limiting the entrance of vehicles onto it, depending upon the conditions of that roadway. Typically, entrance is "metered" at ramps using a traffic signaling device which responds to the amount of congestion on the highway.

Concurrent Flow HOV/Busway

This HOV alternative would include building two lanes, one for each Beltway loop, which would be reserved for vehicles traveling with a minimum number of passengers, as well as buses during peak travel times. A specific HOV enforcement and emergency management strategy has yet to be identified, but would be an integral part of any HOV alternative.

Barrier Separated HOV/Busway

The Washington D.C. area is home to one of the most successful barrier separated HOV/Busway facilities in the country: I-395/I-95 in Northern Virginia. Implementing this alternative on the Beltway would require a barrier separating each of the HOV lanes, since congestion is typical on both loops of the Beltway. A specific HOV enforcement and emergency management strategy will be identified for this alternative.

HOV Busway with SOV Toll

Recent public attention has been drawn to the idea of providing single occupancy vehicle, or SOV, travelers with the option of traveling on the less congested HOV lanes by paying a market based toll. This is being implemented for the first time on State Road 91 in California. This alternative is attractive because it provides travelers an additional means to getting to their destinations in a time-efficient manner when

other transportation alternatives are not feasible to them or preferred. Frequently the tolls collected from these facilities go directly into enhancing the system with additional travel options or further enhancing the new facility itself.

Transit

This alternative would expand the area's rail transit capacity with heavy or light rail in lieu of expanding the highway itself. These alignments would likely connect major business districts along the Beltway Corridor. Should this alignment be chosen, significant efforts would be taken to connect the Beltway rail to the existing Metro rail and local bus system to maximize the effectiveness of the new system.

Where Do We Go From Here?

A lot of work will take place over the next few months to further refine and define the seven alternatives presented above. Locations and alignments have to be identified, TDM/TSM strategies refined, and other details have to be decided upon. In addition, one of the most important advances the study will make soon will be to finalize a set of performance criteria and measurements that will be used to determine how well these alternatives address the study problems. These "measures of effectiveness" will primarily be used to help the study team to choose the preferred set of improvements from the above alternative packages.

As has been the case throughout the entire Maryland Capital Beltway HOV Study process, all decisions will be made in cooperation with numerous public agencies, interest groups and the general public. This will ensure that the study outcome will reflect the true needs and desires of Beltway stakeholders including Maryland, D.C., and Virginia residents, businesses, long-distance travelers, goods carriers, and area governments. Watch for opportunities to learn about and influence the outcome of these processes in the weeks to come.



Why an "HOV" Study?

History of the Study

Maryland State Highway Administration (SHA) initiated study of improvements to the Beltway in the early 1990s. The study began as a look at the feasibility for enlarging the Capital Beltway facility with HOV, or High Occupancy Vehicle, lanes. With severe right-of-way restrictions due to mature development all along the Maryland Beltway alignment, improvement options were limited. HOV lanes were viewed as a method for maximizing the value of extra lanes on the Beltway because they are able to move more people in fewer vehicles than typical highway travel lanes.

In November of 1993, the U.S. Department of Transportation published a new set of regulations on transportation planning which require transportation officials to consider a wide range of transportation modes as ways to address transportation problems. Maryland Department of Transportation (MDOT) responded to this mandate by expanding the focus of the study to include a variety of modal and system management strategies to deal with the congestion and other problems faced on the Beltway. Many of these strategies address the need to reduce the number of automobiles that travel on the Beltway while still meeting the transportation needs of its users. Each of these strategies, including HOV, will be evaluated equally against the problems identified and performance criteria established for the Beltway Corridor.

Why HOV?

HOV, or high occupancy vehicle, refers to lanes or facilities that are reserved for cars, vans, and buses which carry a minimum number of passengers. The practice of reserving specific lanes or even entire highways for HOV travelers encourages carpooling, vanpooling, and the use of bus services as alternatives to 'SOV' or single occupant vehicle — one person per car — travel. When effectively implemented, HOV increases the efficiency of the highway facility or network by moving more people in fewer vehicles. Areas which make use of HOV typically face conditions of extreme traffic congestion on roads with little opportunity for expansion and few alternative travel modes available to serve the public's travel needs. Both of these conditions are met by the Capital Beltway.

HOV is not a new concept to the Washington Metropolitan Region. In the 1970s, Washington opened one of the most successful HOV facilities in the country, the barrier separated reversible HOV lanes on the Shirley Highway.

Since that time a number of other primary commuter corridors have reserved portions of their highways for HOV including portions of I-66, I-270, and U.S. 1 in Virginia. Plans through the year 2020 for the Washington metropolitan region include looking at the possibility for developing an entire network of HOV facilities on roads serving both Maryland and Virginia with the Capital Beltway as the circumferential facility connecting all of these routes. Targeted Maryland highways include US 50, The Baltimore-Washington Parkway, U.S. 301, expansion of the existing HOV on I-270, and I-495/I-95 (Capital Beltway).

Why Not SOV?

A number of people have asked why MDOT will not simply expand the Beltway's capacity for general purpose traffic. There are two important reasons for this. One, travel demand projections indicate that without increasing the ratio of passengers to vehicles (vehicle occupancy), two additional lanes will simply not be enough to meet long term projected demand for the Beltway corridor. In addition, the Washington region is faced with a serious air quality condition. Metropolitan areas with air quality conditions similar to those in Washington are required to significantly reduce the air pollutants contributed by automobile emissions, the principal offending component to the air quality dilemma. Those areas with transportation plans and programs which fail to meet air quality standards face withholding of federal transportation dollars, a disastrous consequence for both the Washington region and the State of Maryland.

Capital Beltway Fact file

- ◆ *The Capital Beltway is a 64-mile loop around Washington, D.C. Approximately 42 miles lie in Maryland's Montgomery and Prince George's counties, 22 miles are in Virginia.*
- ◆ *The Beltway is the busiest highway in Maryland and is vitally important to the future of the Washington metropolitan area.*
- ◆ *Traffic volume on a typical weekday exceeds 200,000 at some locations—far above design capacity. Severe congestion and delays are common during rush hour.*
- ◆ *The number of vehicles using the Beltway grew by 50 percent from 1984 to 1993.*
- ◆ *Traffic volume is expected to grow significantly in the next 25 years, as the number of households and jobs in the region increase.*



Participation & Coordination:

Keys to a Successful Study

Just as the Capital Beltway serves the entire Washington metropolitan area, the study underway to improve the roadway includes participation from a wide array of regional agencies, groups, and the general public. This cooperative approach is one of the most important features of the federal Major Investment Study (MIS) process that guides the Capital Beltway HOV Study.

Maryland and Virginia are conducting separate, but coordinated, studies of the portion of the Beltway in their respective states. Coordination among the many participants is provided through a Project Management Team (PMT), which meets monthly. The PMT consists of a diverse spectrum of local, state and federal transportation agencies and providers. State and local officials include representatives from both Maryland and Virginia. Regular contact is maintained with key federal and state regulatory agencies. Public officials are briefed as needed.

A Consultation Group is also meeting periodically to give Maryland input at key milestones throughout the study. The group includes officials from local municipalities along the Beltway, as well as representatives from major private "stakeholders." These private sector participants include business groups, environmental organizations, transportation associations and major Beltway users.

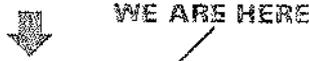
A very important part of the study is participation by the general public. Numerous opportunities exist to stay informed and provide input as the study progresses (see related article).

The wide range of participants in the study provides valuable information and technical support to the study team, which ultimately results in a better final plan for the Beltway's future.

Study Process:

Step 1- Purpose & Need (Summer 1995 - Fall 1995)

- ◆ Initial technical studies to assess the need for transportation improvements
- ◆ Submit Draft Purpose and Need Statement for federal and state agency approval
- ◆ Public and Agency participation



Step 2- Preliminary Alternatives (Fall 1995 - Summer 1996)

- ◆ Data Collection & preparation including natural, social, economic inventories
- ◆ Develop and screen preliminary alternatives
- ◆ Public Workshops: Summer 1996



Step 3- Detailed Study (Summer 1996 - Spring 1997)

- ◆ Develop detailed alternatives
- ◆ Prepare Draft Environmental document
- ◆ Hold Public Hearing



Step 4- Final Recommendation (Spring 1997 - Fall 1997)

- ◆ Additional Studies if necessary
- ◆ Select Final Recommendation
- ◆ Prepare Final Environmental document
- ◆ Receive final approval from Federal Highway Administration

How Can You Get Involved?

Public participation is an important ingredient in the Maryland Capital Beltway HOV Study. Blending citizen suggestions, concerns and needs into the process will result in better decisions with greater support. There are a number of ways to get involved and stay informed.

Probably the best way to keep abreast of the study's progress is to get on the project's mailing list. Persons on the mailing list will receive periodic newsletters, meeting announcements and other helpful information.

Informal Open Houses, held a number of times each year, are good opportunities to get the latest information and to talk with project planners. More formal public workshops and meetings are held at key milestones in the study. Two public workshops were held last fall and more are scheduled for summer of 1996.

Questions and comments are encouraged. Feel free to call the Capital Beltway HOV Study Hotline at 1-800-548-5026. The toll-free line is open weekdays, from 8 a.m. to 4:30 p.m. For additional information, contact Suseela Rajan, Project Manager, (410) 545-8514.

Upcoming Events:

Spring '96

- ◆ Alternatives Public Workshop: Summer 1996
- ◆ Open House
May 16, 1996, 5-8 PM
Location to be announced

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Maryland Capital Beltway HOV Study
c/o Maryland Department of Transportation
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202