The Region

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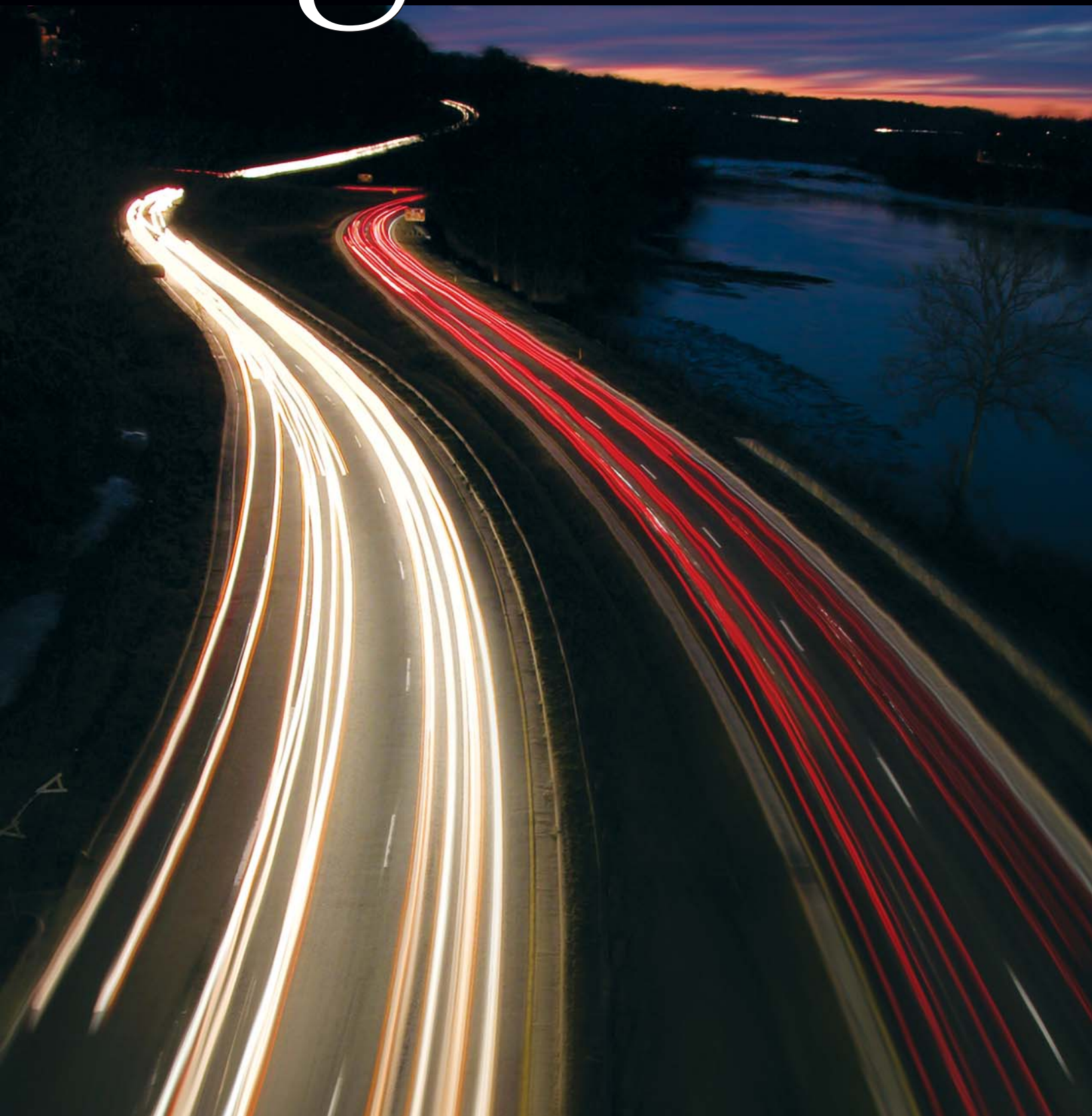
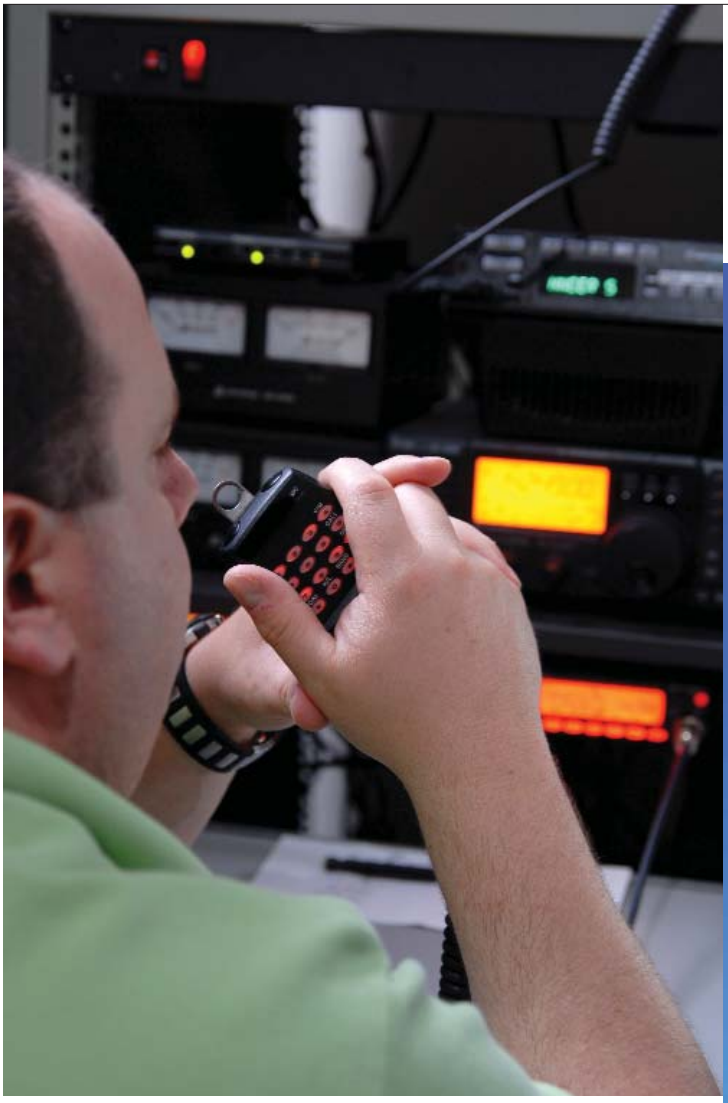
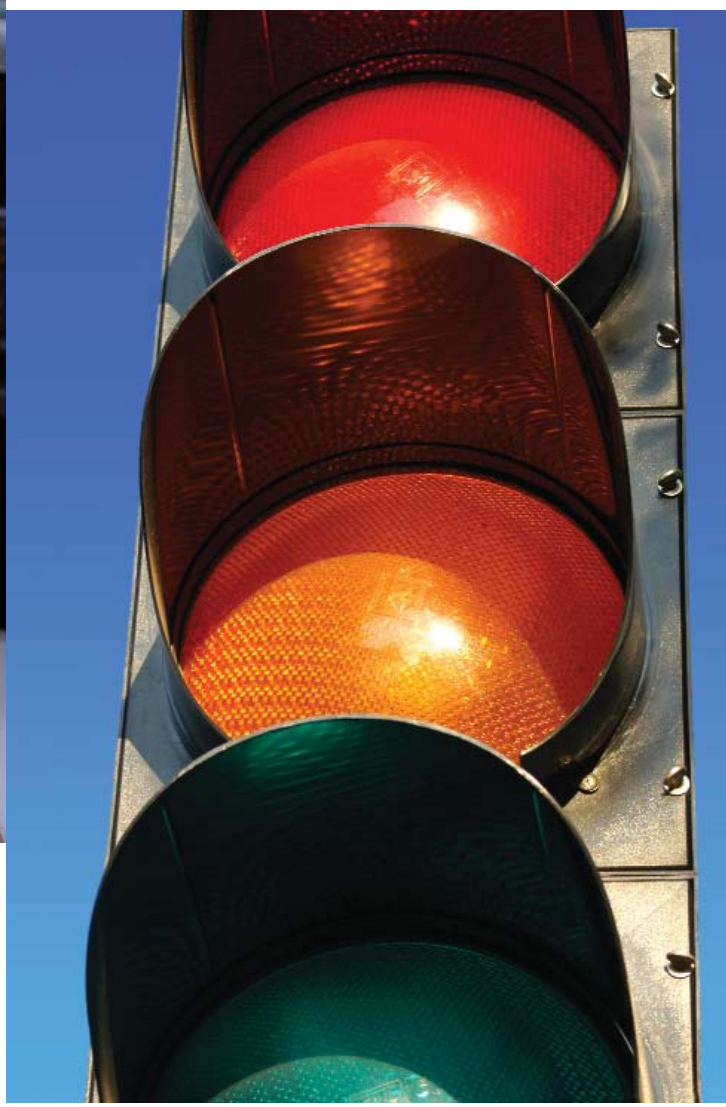


NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD





How Are We Doing? Looking at Priority Issues in the 2005 Long-Range Plan

In 2005, TPB Chairman Phil Mendelson requested that the TPB take a closer look at three priority issues: Improving emergency preparedness, optimizing signal timing and promoting regional activity centers. These priorities are derived from the TPB Vision, the regional transportation policy framework adopted by the board in 1998.

PRIORITY #1

Improve interagency coordination for incident management

Creating a regional coordination program

A truck overturns on the Beltway. A building fire closes a major roadway. Service to a transit station is interrupted due to police activity. Such events occur frequently in the Washington region. The immediate scenes of these incidents are handled with skill by responsible police, fire, transportation, and other responder personnel. Following well-established incident command procedures, they work to clear the problem as quickly as possible while protecting safety and security.

These occurrences, however, also can have impacts on the transportation system far from the incident scene, generating major traffic tie-ups or transit delays. On-scene responders often are too busy to spend significant time addressing these faraway secondary "ripple effects" affecting thousands of people. Until now, the region has addressed such ripple effects on a case-by-case basis without a single, designated regionwide entity responsible for coordination.

Following from the experiences of the 9/11 attacks and other major incidents, TPB has partnered with the region's major transportation agencies in creating the Regional Transportation Coordination Program (RTCP). At the initiative of U.S. Congressman Jim Moran, a $1.6 million grant to jumpstart the RTCP was provided in the 2005 SAFETEA-LU federal transportation reauthorization legislation.

"We need to coordinate construction schedules. We need to coordinate the way we address traffic incidents. And we certainly need to communicate better so that we can immediately figure out the most efficient way to deal with transportation crises as they arise," Congressman Moran told the TPB in April 2005.

The SAFETEA-LU funding enabled the District of Columbia, Maryland, and Virginia Departments of Transportation and the Washington Metropolitan Area Transit Authority, with the support of TPB staff, to initiate the program. In October 2005, TPB amended the region's Constrained Long-Range Transportation Plan (CLRP) and the six-year Transportation Improvement Program (TIP) to include the RTCP.

Also in late 2005 and early 2006, with support from

the District Department of Transportation, the U.S. Department of Transportation's Volpe Center research arm provided expert advice and consultation on how to establish the program. The Volpe study confirmed that an RTCP can add benefit to the incident management work each transportation agency already does. Volpe noted that regional capability shortfalls exist without designated accountability for handling regional coordination activities. Volpe also noted that such a program does not have to be a bureaucracy, nor a bricks-and-mortar center, but rather a committed cooperative effort among key agencies. Volpe identified a number of organizational options for the RTCP, which are being considered by the partner agencies.

The next step upon completion of the Volpe study was to engage staff on an initial basis to support RTCP implementation. A program manager and technical support team, contracted by COG and TPB from the private sector, were to be in place by mid-2006. Development activities are to proceed throughout 2006, with the RTCP ramped up on an incremental basis.

The RTCP partners are also working with the University of Maryland Center for Advanced Transportation Technology on a separate, but related project—the Regional Integrated Transportation Information System (RITIS). RITIS will provide real-time transportation data compiled from each of the region's transportation agencies, and thus will be the primary source of information used within the RTCP.

The RTCP partners will have three major focuses to accomplish improved regional transportation communications and coordination.

A first focus will be to improve the technological systems by which transportation agencies can share data automatically. Advanced and emerging technologies will lessen the need to depend on busy personnel for information sharing, and will aid the accuracy and timeliness of shared data. RITIS will be a critical element.

The second focus will be on how agencies and personnel coordinate during incidents, based upon standard operating procedures and notification practices. Transportation response personnel have made great strides in recent years to strengthen multi-agency coordination, and the RTCP will support further improvements.

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The third focus will be on using enhanced technologies and procedures to ensure that timely, accurate transportation information is provided to the public during incidents. Though the RTCP will not replace the public's reliance on broadcast and other media for transportation information, it will improve the quality and timeliness of the information available through the media sources. RITIS will also be a critical element here.

Challenges that remain include securing sustained long-term funding for the RTCP, and achieving better technical and procedural integration with public safety agencies and other non-transportation partners. The overall task of regional transportation coordination during incidents is a challenging one, but a task nonetheless that must be addressed. The RTCP will achieve success when the wide range of regional stakeholders, from the transportation agencies to public safety personnel to the general public, can rely on the program as the keystone to addressing the transportation ripple effects of incidents.

PRIORITY #2

Implement Traffic Signal Optimization

The TPB's signal retiming program has exceeded goals

Hundreds of traffic signals across the region have been retimed over the past three years to improve traffic flow and reduce emissions, according to reports from the departments of transportation in Maryland, Virginia and the District of Columbia.

These improvements, known as "traffic signal optimization," exceed a regional goal established by the Transportation Planning Board in 2002. Only 45 percent of the region's signals were optimized in 2002, compared with 68 percent in 2005.

In 2002, the TPB adopted the signal optimization goal as a Transportation Emissions Reduction Measure (TERM). The board implements TERMs to help meet regional emissions reduction goals, which the federal Clean Air Act requires.

The original TPB goal called for the number of optimized signals to increase from 2,100 to 3,000. By the fall of 2005, that goal has been exceeded with the optimization of more than 3,200 signals regionwide. The air quality benefits of the optimization programs were greater than originally expected.

Engineers determine optimized signal timings based on a combination of traffic volume counts, travel time observations and computer analysis. The result for any one driver may not appear to be "optimal," due to high traffic loads, cross-traffic or other factors, but overall system delay should be reduced. An engineering rule of thumb recommends checking signal timing at least every three years as traffic patterns evolve.

Measuring benefits

The improvements aim to reduce travel times, delays and the frequency of stops. Although the results varied significantly around the region, the most common improvements were in the range of 5 to 20 percent.

For example, travel times were cut 5 percent on a 14-mile segment of Georgia Avenue (MD 97) between Olney, Maryland and the District of Columbia border. Drivers experienced a 12 percent reduction in travel times on the 5-mile portion of Georgia Avenue in D.C. between the Maryland line and Rhode Island Avenue.

The cost of optimizing an intersection is approximately $3,000. Analysis performed by contractors for the Maryland State Highway Administration estimated a benefit of about $10 in time and fuel savings for each $1 spent on optimization.

The signal optimization program occurs within a larger context of traffic engineering activities. Since 2002, approximately 250 new signals have been installed. Specialized timing plans have been developed for emergencies, and in the case of Virginia, for holiday shopping traffic near major shopping facilities. And on a routine basis, agencies perform systems monitoring and maintenance, respond to public inquiries and perform spot-checks.

The traffic engineer's toolbox holds a number of options for continued improvement, including technical upgrades such as pedestrian countdown signals and bus signal prioritization, which is being tested on Route 1 in Fairfax County and Columbia Pike in Arlington.

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PRIORITY #3

Identify how projects or proposals support the regional core and regional activity centers

Plan will increase transit access to activity clusters

New rail projects in the region's 2005 Constrained Long-Range Plan (CLRP) will increase transit access to regional "activity clusters," according to a report presented to the TPB in October 2005. The analysis also found that a high percentage of commuters use transit to travel to activity clusters, particularly "core" clusters in the District of Columbia, Alexandria, and Arlington County.

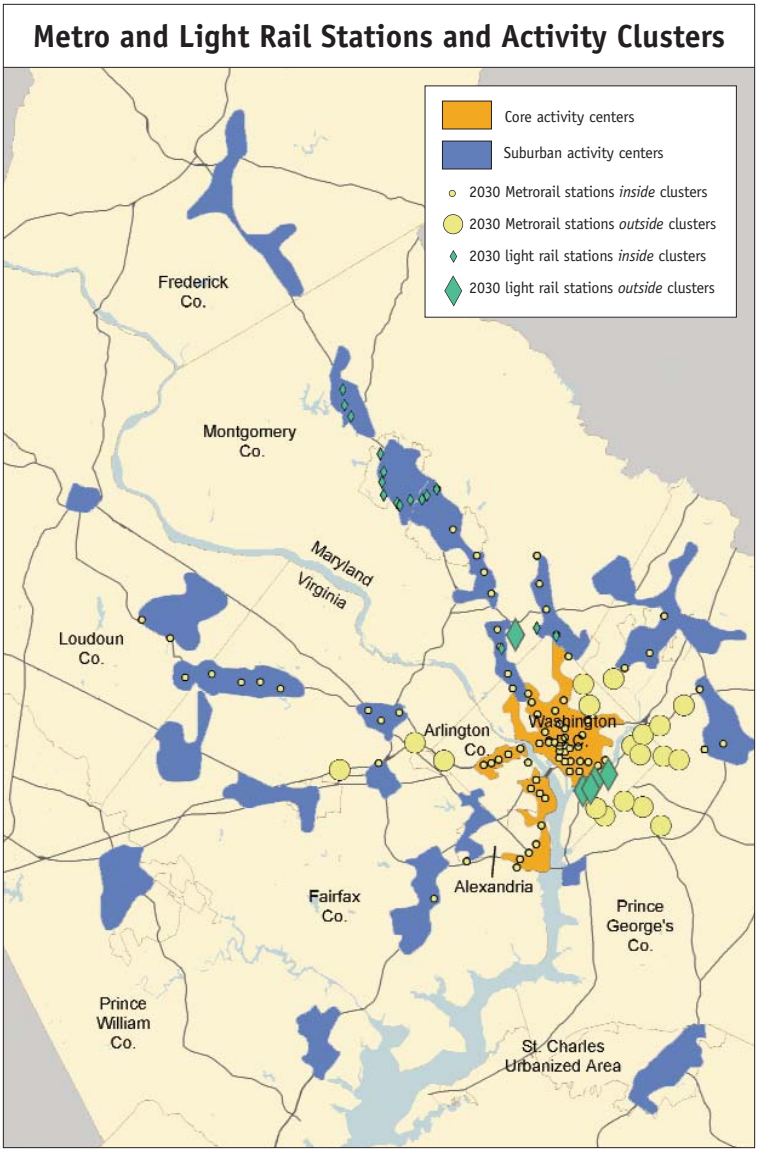
The concept of activity "centers" and "clusters" was a key component of the TPB Vision, a policy document adopted in 1998 to guide the development of the CLRP. Goal 2 of the Vision states that the region's transportation system should promote a "healthy regional core and dynamic regional activity centers with a mix of jobs, housing and services in a walkable environment."

TPB and COG worked together to develop regional activity center maps, which were published in 2002 and will be updated in 2006 based on the recently adopted Round 7 cooperative forecasts. To simplify the maps and to include areas within major transportation corridors, activity centers were grouped into larger "clusters."

The transportation/land use connection

In early 2005, the TPB asked implementing agencies to place a high priority on considering how projects support the regional core and regional activity centers when submitting projects for the CLRP and TIP. To help illuminate the relationship between activity centers, planned transportation improvements, and forecast land-use patterns, TPB staff conducted an analysis of the draft 2005 CLRP. The analysis focused on activity clusters, rather than centers, because the clusters are better aligned with the transportation analysis zones used to forecast future land use and travel patterns.

The analysis showed that in 2002, only 11 out of 24 activity clusters had Metrorail stations. By the year 2030, an additional 5 clusters will gain Metrorail or light rail stations, due to the extension of Metrorail to Dulles Airport and Loudoun County in Virginia, and construction of the Corridor Cities Transitway along I-270 in Maryland. In both 2002 and 2030, 11 out of 24 clusters have commuter rail stations.



The TPB analysis looked at the relationship between activity clusters and the region's long-range transportation plan.

On the other hand, not all rail stations are located in activity clusters. In 2002, 64 out of 83 Metrorail stations were located in activity clusters. Most of the rail stations outside activity clusters are located in the eastern half of the District of Columbia and in Prince George's County. Not enough jobs are located in these areas for them to qualify as regional activity clusters, but the potential for new transit-oriented development is high. All new Metrorail stations and 16 out of 21 new light rail stations will be located in activity clusters.

Jobs, housing and commuting

Across the entire region, only 38 percent of households were located in activity clusters in 2002; by 2030, the number will increase to 40 percent. The concentration of jobs in activity clusters will remain steady at 70 percent. Although the absolute number of jobs and households is forecast to increase in core clusters, the regional share of jobs and households in these clusters is forecast to decrease. The fastest growth rates are expected in the suburban activity clusters.

Commuting patterns are expected to reflect these changes in land use. The share of all auto commute trips that go to suburban activity clusters is forecast to increase from 44 percent in 2002 to 47 percent in 2030. The share of auto commute trips that go to areas outside activity clusters is also forecast to increase, from 33 to 35 percent. In contrast, the share of auto commute trips that go to core activity clusters is forecast to decrease from 23 percent to 18 percent. Over 90 percent of transit commute trips go to activity clusters, both now and in future forecasts.

The percent of commuters that take transit is particularly high in the core clusters, at 39 percent in 2002 and increasing to 43 percent in 2030. This transit "mode share" is five times the mode share in suburban clusters and 10 times the mode share for areas outside the clusters.

Although the analysis found a number of positive signs, such as the increased transit access to activity clusters, some TPB members expressed concern that the regional transportation plan was not doing enough to promote activity clusters. "What we are seeing is that there isn't as good a correlation [between land use and transportation planning] as we would like," said TPB Chair Phil Mendelson.