

## **Implementation of HOV Lanes on I-270: Lessons Learned**

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Good morning. It is a pleasure to have the opportunity to talk about the first freeway high-occupancy vehicle (HOV) lanes in Maryland, which was opened last September. We approached planning for the HOV lanes like a pilot project. We knew for practical, legal, and economic reasons, however, that HOV lanes were going to be part of the mix for all future highway planning in Maryland. Therefore, the project had to work. To date, the project has been working well.

I would like to start by providing a background to transportation planning in Maryland and the first HOV project. Interstate 270 serves a heavily traveled corridor, which includes residential communities and high technology business campuses. I-270 is a radial freeway that connects the rapidly growing corridor of northwest Washington, D.C., with the Capital Beltway. Between 1970 and 1990, the average daily traffic volumes have more than doubled along this corridor. The increasing traffic volumes show the effect of this continued growth and the reasons for much of the traffic congestion experienced today.

In 1991, approximately ten miles of I-270 were widened to accommodate eight mainline freeway lanes and four continuous collector-distributor lanes. This widening utilized the available right-of-way, leaving no room for additional expansion. Forecasts, however, indicate that the capacity of even this expanded 12 lane roadway will be exceeded by the year 2000. This would result in gridlock on one of Maryland's most important transportation corridors. Obviously, something had to be done to prevent this.

One of the first things that was done, after the 12 lane widening was completed in 1991, was to put up signs over

the new median lane that read "Future HOV Lane." Although the traffic volumes at that time did not justify opening the new lane as an HOV lane, it was felt that the public needed to be prepared for such a possibility.

Historically, the solution for gridlock has been to add more lanes but since there is no more right-of-way available in the I-270 corridor, long-range planning had to include HOV lanes as a major consideration along with other transportation options. The Maryland State Highway Administration (MSHA) believed that HOV lanes were a viable means of slowing down the rapid increase in the rate of traffic growth. At the very least, HOV lanes would guarantee free flow conditions for those who chose to carpool or ride the bus during peak-periods. The requirements of the 1990 Clean Air Act Amendments were also a consideration. The I-270 corridor does not meet federal air quality standards and is considered a non-attainment area. With the passage of the ISTEA, federal matching ratios for interstate projects in non-attainment areas dropped from 90 percent to 80 percent except for HOV projects.

SHA had planned to widen portions of I-270 to the north and south of the 12 lane expansion section. These projects were part of the capital program. Although interstate funding was to be used for these projects, securing additional funds for the ten percent increase in the state match was a significant concern.

From a transportation planner's perspective, the concept of HOV lanes appears to be a good one. However, elected officials and the public-at-large do not always agree, but most news reporters think 'that this difference of opinion is wonderful because it creates controversy-and controversy makes for good stories.

As a result, when the State of Maryland began to consider using HOV lanes as a possible solution to gridlock, you can understand why we approached the idea with great reservation. We decided to give the concept of HOV lanes a try, however, and hoped to benefit from the lessons of HOV history-rather than having to repeat them. Pioneers have always paved the way for those who follow, and Maryland is grateful to those of you who are veterans of the great HOV wars.

We knew from your experience what we were up against in terms of public and private resistance. We also realized, from recent local experience, that the public generally balked at the idea of HOV lanes. You see, a recent attempt to implement HOV lanes on the Dulles Toll Road in nearby Virginia failed, generating considerable public skepticism about HOV lanes, especially among motorists along the I-270 corridor.

Therefore, in March of 1993, when we launched our HOV lane study, a strategy was developed that not only recognized the potential resistance and skepticism on the

part of motorists and policy makers, but also incorporated the need to deal with this into every step of the planning process. We began by reviewing the experiences other states had with HOV lanes. Based on this assessment, we came to the following conclusions.

- Before any decision is made to implement HOV lanes, options should first be developed and presented to and discussed with the public. This discussion should include whether to open or maintain the lanes as general-use lanes.

- Develop a high profile information campaign that will make clear to the public and to the press just how HOV lanes work and the benefits of HOV facilities.

- Time the implementation of the HOV lanes so that it will be obvious to the public that their use will help to relieve congestion in the general-use traffic lanes. It is counterproductive if the public sees empty HOV lanes when the general-use lanes are overcrowded.

- Make HOV lanes part of an overall strategy that includes employer-based carpool programs, park-and-ride facilities, and other services.

At the beginning of the I-270 HOV study, we decided that it was as important to collaborate on the development and evaluation of alternatives, as it was to collaborate on making a final decision. To accomplish this, a technical team which included representatives from the county in which I-270 is located and from the Federal Highway Administration (FHWA) was established. Sub-teams were also formed to address operational issues and public relations. Further, as the study progressed, the metropolitan planning organization, local and state elected officials, and interest groups throughout the corridor were informed about the status and findings from the study. The key to the collaborative approach was two-way communication that made our constituents also our stake holders. We told them what we were doing; they told us what they thought. The result was that we were able to make reasonable modifications to the HOV options as we went along.

The public was kept informed throughout the process. Although people continued to strongly resist the concept of HOV lanes, many began a gradual shift from resisting the idea to giving HOV lanes a chance if we could prove that they would work. Overcoming people's resistance to the HOV concept by giving them facts and figures was key to our public information campaign. For example, during the planning process, a broadcast-quality video tape was produced that explained what HOV lanes were, how

they worked and why they were being considered. This video was shown to citizen interest groups, elected officials, and at a formal public hearing.

The public hearing on the I-270 HOV lane proposal was highly publicized. A press release, which included a toll free HOV "hotline," was widely disseminated to all print and electronic news outlets. As a result, the press asked for and received advance interviews. Television stations appreciated having professionally produced tape footage to illustrate the story, and repeatedly aired the HOV "package" as well as a pre-recorded question-and-answer session before the hearing. The turnout at the public hearing and the tremendous number of phone calls and letters that followed were evidence that the public information campaign had been effective.

In the summer of 1993, the decision was made to move forward with HOV lanes on I-270. A letter stating that the decision had been made was mailed to citizens groups, civic associations, business leaders, and elected officials within the I-270 corridor. An announcement to the general public was also made at a press conference. Special one-on-one meetings were held with radio and TV traffic reporters, transportation writers, and editorial boards of local newspapers. Employer information packets were distributed to major employers and ridesharing coordinators along the I-270 corridor to help them answer the most commonly asked questions about HOV facilities. Employers were urged to encourage employees to share a ride.

One of the most important tactics at this point in the public information strategy was advance signing. For example, months before opening the first HOV lane, a permanent HOV sign was put up and a small banner which read "future" was placed over it. Then, one month before opening the HOV lane, another banner was placed over the permanent HOV signs. That banner read "Opening September 27th." Once the HOV lane opened, variable message signs were used to advise drivers that they were approaching the HOV lane.

A solid base of technical information was also developed as part of the HOV study. Vehicle occupancy counts verified that there were enough existing high occupancy vehicles to ensure that the HOV lanes would be used by existing carpoolers even if the estimated diversion did not occur. Volume and capacity projections established the need for a two person (2+) minimum occupancy requirement per vehicle. These projections also helped in the comparison of the people moving capability of the HOV lanes versus the general-use lanes. Data on vehicle occupancy and peak hour traffic volumes were used to determine the best hours for HOV operation. Data on travel times before and after implementation of the HOV lanes were calculated and compared to show the

travel time savings resulting from the HOV lanes.

Opening day on September 27, 1993, exceeded our expectations. The vehicle volumes in the HOV lane were good, the press reports were favorable, and one public opinion poll indicated that the majority of the people thought HOV lanes were a good idea. We did have one interesting event during the opening, however. As officials and the press were watching from a bridge, an incident involving a violator in the HOV lane, a motorist in the adjacent lane, and a police car pursuing the violator occurred. No one was hurt, but guess what story led the news that night?

Ongoing monitoring has been conducted since the opening of the HOV lane. During this time, the HOV lane volumes have ranged from approximately 400 to 600 vehicles per hour during the evening peak-period. Average travel times for all motorists on I-270 have improved. Before the HOV lane was opened, the average travel time for the two mile segment was five minutes. Since the HOV lane opened, the average travel times are down to four minutes in the general-use lanes, and two minutes and 17 seconds in the HOV lane.

Violation rates have been fairly high, averaging approximately 23 percent. A range of enforcement methods continue to be tested to find the best way to reduce violations without slowing traffic or increasing accidents. The courts have upheld the violation citations to date.

We credit the success we have had to four key factors. First was the collaboration with the public, the press, elected officials, and local interest groups from planning through implementation. Second was the ongoing communication through open debate and discussion. This not only informed the public but also provided useful feedback that often led to modifications which either improved the plan or avoided impasses. Third, close attention was given to all operational details, from signing and paint striping to enforcement. This helped ensure everything went as smoothly as possible at start up. Finally, we avoided startup confusion by anticipating potential problems. The public was informed that HOV

lanes were coming, when they were coming, and what to expect on opening day. Providing the public with helpful information was instrumental' in getting the public to cooperate that first day.

The I-270 pilot project just described is the first of four phases planned in the I-270 corridor. With Phase I, a new HOV lane was constructed on the northbound side of the 2% mile East Spur segment of I-270 with evening peak-period restrictions only. Phase II will open by July of this year. This will include a new southbound HOV lane, to Phase I's northbound HOV lane, operating in the morning peak-period from 6:00 A.M. to 9:00 A.M. Phase III will open in the summer of 1996. Newly constructed lanes will help to relieve bottlenecks just north of the widened 12-lane section. On the same day that the new lanes are opened, the existing median general-use lane in the original 12-lane widened section will be converted to an HOV lane. The intent of this simultaneous implementation is to reduce the sense among single occupant vehicle drivers that they have lost something. Phase IV will open in the summer of 1997. These newly constructed lanes will help to relieve bottlenecks at the southern end of the widened 12-lane section, known as the I-270 West Spur.

The statewide plan for HOV implementation will be an outgrowth of this pilot project. A statewide network of potential HOV facilities is being identified as part of this process.

In conclusion, one of the most important lessons learned from this project is that for HOV lanes to succeed, they have to be used, and in the final analysis, it will not be the Maryland State Highway Administration that determines whether HOV lanes will be used, but the drivers themselves. All that we in MSHA can do is hope that if we build it, they will come-or to be more precise, if we build it, they will carpool. So we will continue to plan, to collaborate with all constituencies, and to learn as we go. But we also plan to step up our campaign to convince Maryland motorists that an HOV highway may be as inevitable as an information highway.