Federal Highway Administration committed to improved operations to fight congestion

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

Improved operations are a cornerstone of FHWA's efforts to improve travel conditions for highway travelers. FHWA continues to develop and compile information for transportation agencies and the public on how improved operations can effectively manage congestion. By addressing congestion by its root causes, both overall congestion levels and reliability are targeted. For more information on FHWA's congestion mitigation activities and to access the complete Traffic Congestion and Reliability Report, visit the FHWA Office of Operations web site at http://www.ops.fhwa.dot.gov.

Congestion causes problems even when freeways are empty

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

Congestion has not only grown over the past two decades, it has become more volatile as well. Congestion levels are never the same from day-to-day on the same highway because the variety of traffic- influencing events that influence congestion are never the same. Because travel conditions are so unreliable on congested highways, travelers must plan for these problems by leaving early just to avoid being late. This means extra time out of everyone's day that must be devoted to travel—even if it means getting somewhere early, that's still time we could be using for other endeavors. Commuters could be late for work or after-work appointments, business travelers could be late for meetings, and truckers could incur extra charges by not delivering their goods on time. And all because of unreliable travel conditions on our highways!

Congestion has been growing since 1982

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

A good source for monitoring congestion trends is produced annually by the Texas Transportation Institute (TTI).1 In their 2005 report, TTI's researchers found that congestion levels in 85 of the largest metropolitan areas have grown in almost every year in all population groups from 1982 to 2003. Average urban congestion trends from 1993-2003 include the following: Peak-period2 trips take an average of about seven percent longer. Travelers spend 47 extra hours per year in travel compared to 40 hours in 1993. The percent of freeway mileage that is congested has grown from 51 percent to 60 percent. Congestion has clearly grown. Congestion used to mean it took longer to get to/from work in the "rush hour." It used to be thought of as a "big city" issue or an element to plan for while traveling to special large events. There was some "slower traffic" in small cities, but it was not much more than a minor inconvenience. The problems that smaller cities faced were about connections to and between cities, manufacturing plants, and markets.

One strategy to reduce congestion is expanding transit and freight rail

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

STRATEGIES TO REDUCE CONGESTION AND IMPROVE RELIABILITY — FOCUS ON OPERATIONS

Transportation engineers and planners have developed a variety of strategies to deal with congestion. These fall into three general categories: Adding More Base Capacity – Increasing the number and size of highways and providing more transit and freight rail service. This can include expanding the base capacity (by adding additional lanes or building new highways) as well as redesigning specific bottlenecks such as interchanges and intersections to increase their capacity.

Operation Strategies have the most dramatic effect on congestion

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

All of these strategies can lead to a reduction in congestion, but it is operations strategies that have the most dramatic effect on reliability because they target the sources of unreliable travel directly. Operations strategies focus on the traffic-influencing events that both raise the general level of congestion and increase unreliable travel. A vast array of strategies are in the transportation professional's "operations toolbox," most of which use advanced technology to identify problems, manage traffic flow, and relay travel conditions to users. Known as Intelligent Transportation Systems (ITS), these technologies enable transportation professionals to implement operations strategies targeted specifically at the causes of unreliable travel:

Traffic incidents are unavoidable on crowded urban freeways

Federal Highway Administration 2005

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Another example of the irregularity in event occurrence can be seen in the frequency and duration of traffic incidents. Figure 2.1 shows how traffic incidents occurred on a 14-mile stretch of Interstate 405 in Seattle, Washington during peak travel periods for the first four months of 2003. Some days are relatively incident-free while others have numerous traffic incidents. Interestingly, at least one traffic incident occurred every day during the peaks on this highway. So, while some days are better than others, traffic incidents are an unavoidable fact on crowded urban freeways.

Congestion hurts economic growth

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

The nation's local, regional, and national transportation systems play a vital role in creating access to goods and services which sustain and grow our nation's economy. Planners and economic development experts recognize that congestion is an economic development issue because it thwarts business attraction and expansion, and reduces the quality of life for residents.

Congestion hurts quality of life

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

Household Impacts. Households have both financial budgets and what is termed "time budgets" that are both impacted by congestion. Households plan their activities around the available time budget as well as around their financial budgets. As vehicle operating and maintenance costs increase with rising congestion, the budget for some types of activities or expenditures decreases. The perceived "quality of life" of a neighborhood is diminished as well, when the safety, reliability and the convenience of the transportation system decreases.

Congestion not just a big v small city issue anymore - effects everyone

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

Congestion has clearly grown. Congestion used to mean it took longer to get to/ from work in the "rush hour." It used to be thought of as a "big city" issue or an element to plan for while traveling to special large events. Sure there was slower traffic in small cities, but it was not much more than a minor inconvenience. The problems that smaller cities faced were about connections to and between cities, manufacturing plants, and markets.

Adding more capacity an important strategy for alleviating congestion

Federal Highway Administration 2005

[| Cambridge Systematics, Inc. *Traffic Congestion and Reliability*, p.online | 09/01/2005 | Accessed 01-02-10 ~ http://www.ops.fhwa.dot.gov/congestion_report/congestion_report_05.pdf !DJC]

Adding More Capacity – Increasing the Number and Size of Highways and Providing More Transit and Freight Rail Service. Adding more lanes to existing highways and building new ones has been the traditional response to congestion. In some metropolitan areas, however, it is becoming increasingly difficult to undertake major highway expansions because of funding constraints, increased right-of-way and construction costs, and opposition from local and national groups. However, it is clear that adding new physical capacity for highways, transit, and railroads is an important strategy for alleviating congestion.

Congestion costs us 4.2 billion hours and 87.2 billion dollars

Schrank & Lomax 2009

[David; Tim | Texas Transportation Institute *Urban Mobility Report 2009*, p.online | 07/01/2009 | Accessed 01-02-10 ~ http://tti.tamu.edu/documents/mobility_report_2009.pdf !DJC]

Congestion is a problem in America's 439 urban areas, and it has gotten worse in regions of all sizes. In 2007, congestion caused urban Americans to travel 4.2 billion hours more and to purchase an extra 2.8 billion gallons of fuel for a congestion cost of $87.2 billion – an increase of more than 50% over the previous decade (Exhibit 1). This was a decrease of 40 million hours and a decrease of 40 million gallons, but an increase of over $100 million from 2006 due to an increase in the cost of fuel and truck delay. Small traffic volume declines brought on by increases in fuel prices over the last half of 2007 caused a small reduction in congestion from 2006 to 2007.

Congestion is being dealt with in the status quo - at least stabilizing

Schrank & Lomax 2009

[David; Tim | Texas Transportation Institute *Urban Mobility Report 2009*, p.online | 07/01/2009 | Accessed 01-02-10 ~ http://tti.tamu.edu/documents/mobility_report_2009.pdf !DJC]

Congestion, by every measure, has increased substantially over the 25 years covered in this report. The most recent two years of the report, however, have seen slower growth or even a decline in congestion. Delay per traveler – the number of hours of extra travel time that commuters spend during rush hours – was 1.3 hours lower in 2007 than 2005. This change would be more hopeful if it was associated with something other than rising fuel prices (which occurred for a short time in 2005 and 2006 before the sustained increase in 2007 and 2008) and a slowing economy. This same kind of slow growth/decline over a few years occurred in the early 1990s when spending and growth in the high- tech and defense sectors of the economy declined dramatically. The decline means congestion is near the levels recorded in 2003, not exactly a year remembered for trouble-free commuting.

Higher fuel prices not the answer for congestion

Schrank & Lomax 2009

[David; Tim | Texas Transportation Institute *Urban Mobility Report 2009*, p.online | 07/01/2009 | Accessed 01-02-10 ~ http://tti.tamu.edu/documents/mobility_report_2009.pdf !DJC]

The 2009 Urban Mobility Report suggests a tentative "yes" to the fuel price question above, if… • By "higher" you mean very high – above $4 per gallon for more than a year • By "solve" you mean slower growth or modest declines in congestion (don't expect to drive at the speed limit on your way to work) The way most people understand congestion, then, the answer is "no, higher fuel prices are not the answer."

Economic recovery will lead to more congestion

Schrank & Lomax 2009

[David; Tim | Texas Transportation Institute *Urban Mobility Report 2009*, p.online | 07/01/2009 | Accessed 01-02-10 ~ http://tti.tamu.edu/documents/mobility_report_2009.pdf !DJC]

The economic solution, likewise, doesn't hold much hope for those wishing to find the easy answer. Travel may grow slower than in the past, but that will only mean "things get worse slower" – hardly a positive goal statement. The Urban Mobility Report database includes a few similar periods from regional recessions in the past (the northeastern states in the early-to-mid 1980s, Texas in the mid 1980s, California in the early-to-mid 1990s). In every case, when the economy rebounded, so did the congestion problem.

Congestion hurts cities of every size

Schrank & Lomax 2009

[David; Tim | Texas Transportation Institute *Urban Mobility Report 2009*, p.online | 07/01/2009 | Accessed 01-02-10 ~ http://tti.tamu.edu/documents/mobility_report_2009.pdf !DJC]

Congestion is worse in areas of every size – it is not just a big city problem. The growing time delays hit residents of smaller cities as well (Exhibit 6). Regions of all sizes have problems implementing enough projects, programs and policies to meet the demand of growing population and jobs. Major projects, programs and funding efforts take 10 to 15 years to develop. In 2020, at this rate, congestion problems in cities with 500,000 to 1 million people will resemble today's traffic headaches for areas over 1 million people.

Congestion solutions require balanced and diversified approach

Schrank & Lomax 2009

[David; Tim | Texas Transportation Institute *Urban Mobility Report 2009*, p.online | 07/01/2009 | Accessed 01-02-10 ~ http://tti.tamu.edu/documents/mobility_report_2009.pdf !DJC]

We recommend a balanced and diversified approach to reduce congestion – one that focuses on more of everything. It is clear that our current investment levels have not kept pace with the problems. Population growth will require more systems, better operations and increased number of travel alternatives. And most urban regions have big problems now – more congestion, poorer pavement and bridge conditions and less public transportation service than they would like. There will be a different mix of solutions in metro regions, cities, neighborhoods, job centers and shopping areas. Some areas might be more amenable to construction solutions, other areas might use more travel options, productivity improvements, diversified land use patterns or redevelopment solutions. In all cases, the solutions need to work together to provide an interconnected network of transportation services.

Efforts to reduce congestion limited by funding

Chester County Planning Commission, accessed 2009

[Highway page, p.online | no date given | Accessed 01-02-10 ~ http://www.landscapes2.org/Transportation/translssuesHigh.html !DJC]

Efforts to reduce traffic congestion and improve highway safety are limited by the availability of funding. While funding levels have actually increased in recent years, the buying power is less because of dramatic escalation in construction costs. The construction cost index has increased 100% since 1996. Funding levels have not kept pace with the rate of material inflation. The effect of this funding shortage has been a backlog of capital projects, higher priorities to system-maintenance, increased pressure to scale back capacity-adding highway projects, and increased interests in alternative financing including roadway tolling and asset privatization.