

ATLANTA REGIONAL MANAGED LANE SYSTEM PLAN

EMERGING ISSUES: SURVEY PAPER

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Atlanta Regional Managed Lane System Plan

Technical Memorandum 1-A: Emerging Issues – Survey Paper

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EMERGING ISSUES – SURVEY PAPER

A. Managed Lane Planning and Development Process

The peer review survey instrument developed for the Georgia Department of Transportation's (GDOT) Managed Lanes System Plan was sent to several government agencies in order to learn more about managed lane planning and implementation throughout the United States. Responses were received from agencies in: Colorado, Dallas, Texas and Houston, Texas. These three regions are all in various stages of system implementation, and they each have had unique experiences that will provide valuable insight as GDOT continues to study managed lanes. Following is a summary of the responses from these regions, including highlights of both differences and common themes in the respondents' answers¹.

Institutions

Before any managed lane program can begin, a region needs institutional systems in place to establish policies and oversee progress. Legislation passed in 2002 authorized the Colorado Transportation Commission to establish the Colorado Tolling Enterprise (CTE), a body charged with implementing, operating, and maintaining new tolled capacity. CTE is a Division of the Colorado Department of Transportation and operates as a government-owned business required to generate at least 90% of annual revenues from sources other than state or local governments. More specific information on CTE's roles, responsibilities, and relationships to other government agencies is included in Appendix A.

The Texas Department of Transportation (TxDOT), together with the North Texas Tollway Authority (NTTA) and the Harris County Toll Road Authority (HCTRA), establish policy and direction for tolled capacity in the Dallas and Houston areas, respectively. The NTTA was established in 1997, but originated with the Texas Turnpike Authority, created in 1953. Their mission is to finance, construct, and oversee turnpike projects in North Texas. The HCTRA came into existence in 1983, and is now a division of Harris County's Public Infrastructure Department. They are charged with overseeing operations, engineering, and customer service for the County's tolled roadways. Non-tolled managed lanes in Texas (i.e. high occupancy vehicle (HOV) lanes) are the responsibility of TxDOT.

¹ While not all managed lanes involve tolls, many of the questions and answers from the survey assume that some degree of tolling/pricing takes place on these facilities.

Motivation and Direction

These three regions, through their responsible agencies, are all examining and/or operating managed lane investments. However, they have unique reasons for pursuing these investments, and they are considering various alternatives to best serve their respective areas. With their current High-Occupancy Toll (HOT) project, CTE wants to optimize operations on existing infrastructure. They consider this a pilot program for future added capacity and congestion relief. Lessons learned on this project will guide similar investment in the future. In Dallas, they want to deliver a combination of predictability and reliability coupled with revenue augmentation. They are also committed to speed/performance guarantees for market-based pricing and incentives for transit ridership and HOV usage. In Houston, managed lanes are seen as the best way to give options to travelers and manage peak hour traffic.

Both vehicle eligibility (HOV and transit free, single occupancy vehicle (SOV) tolled) and pricing (variable, time of day) have been considered among the alternatives for Colorado's managed lanes. For all alternatives, CTE has sought to avoid any degradation to transit service or HOV performance and to ensure that the peak hour toll would never be less than the express bus fare for the same trip. Eligibility and pricing were both considered in Dallas as well. They have had a general understanding that, at first, policies may vary as different projects are phased in, but would eventually migrate toward one common policy applied throughout the system. Houston has specifically studied access-based lane management techniques and has examined alternatives for separating managed lane traffic from traffic in general purpose lanes.

Expectations

As managed lanes become part of the congestion mitigation toolbox in major cities, it is important that they fit in with existing planning practices, including the development and implementation of long-range plans. Since these are often revenue-generating facilities, they do not classify as roadway capacity projects in the traditional sense. Therefore, special attention should be paid to these projects with regard to Long Range Transportation Plans (LRTP) and Transportation Improvement Plans (TIP). Recognizing that any plan amendment must meet federal and state guidelines, the CTE requires that a planning level "Financing/Revenue Plan" be developed based on the toll system defined in the planned amendment. In the Dallas metro area, managed lane projects are included in planning documents with an understanding that a portion of the funding will come from both tolls and public funds. However in Houston, HOT lanes projects are not yet programmed in the TIP or LRTP.

Despite the expectation that public funding will be involved, these regions intend for toll revenue to play a significant role in covering capital and/or operating costs. For Colorado's I-25 HOT lanes project, tolls were expected to cover construction and operating costs. However, for future projects, tolls will cover operations and maintenance and only part of the capital construction costs, with the state/local contribution limited by legislation to twenty per cent. Dallas expects that tolls will cover between twenty-five to fifty per cent of capital costs, with an understanding that each project is different, and specific toll contribution can not be precisely projected in advance. Houston's HOT lanes are to be built with Metro, the local transit operating

agency and Federal Transit Administration (FTA) funds for redesignation, and tolls will cover some or all of the maintenance and operations.

Benefits and Challenges

While managed lanes can be controversial², these three regions have identified a number of benefits from the perspective of the public, elected and appointed officials, and from transportation agencies. The public sees benefit in a congestion-free trip along an otherwise congested corridor, and they appreciate the reliability and predictability the facilities would provide. HOV to HOT conversion, in particular, is seen as a great way to maximize use of the existing system. These benefits are echoed by elected and appointed officials, who also note that managed lanes can help offset revenue shortfalls, leverage funds for operations and maintenance, and improve air quality. Transportation agencies, meanwhile, call attention to increased mobility options, including benefits to buses, vanpools, and bus rapid transit.

Even though such lanes do carry a number of benefits, there are still challenges to implementation. Some local governments in Colorado are opposed to managed lanes because they feel entitled to additional “free” capacity. There also exists the potential that these projects will become politicized. To date, Dallas has kept stakeholders engaged, solicited and incorporated input from various groups, and kept the discussion technical. But eventually it must be decided which project gets built first; and that could prove controversial. An unbiased methodology for evaluating the potential for managed lane applications must be in place. Colorado screens projects using at least five criteria: travel demand, construction cost, local impacts, revenue generation, and public and political support. A value pricing study conducted for Dallas lists ten criteria for the evaluation of managed lanes³.

- Facility main line or general purpose lanes exceed LOS ‘E’
- Facility subject to legislative/legal considerations
- Facility supports managed lane(s) enforcement
- Facility supports toll collection
- Facility represents a potential candidate for incentive based pricing
- Facility improvement minimizes construction disruption
- Facility can be constructed or modified and open to traffic within a reasonable timeframe.
- Facility supports physical lane separation

² Perhaps the most controversial issue is pricing/tolling lanes that are currently free. None of these regions are currently pursuing a strategy to toll existing general purpose lanes. All mention of managed lanes involves new capacity or existing HOV to HOT conversion.

³ North Central Texas Council of Governments. “Regional Value Pricing Corridor Evaluation and Feasibility Study”. June 2005.

- Facility can be designed with minimal design exceptions
- Facility supports ingress/egress directly to the managed lanes

Screening criteria can provide valuable insight into which projects are worth considering. Prioritizing these is another challenge, and these three regions do not yet have formal processes in place for choosing which managed lane project to build first.

Managed lanes are a relatively new concept in most parts of the country. As such, there is little experience to draw on when making important decisions. Since project specific and system wide studies are without much precedent, they are all the more critical for project implementation. A traffic and revenue study was conducted for Colorado's I-25 HOT lanes project. These studies are important for understanding future traffic and revenue generation from tolled facilities, and often serve as an initial screen for a project's feasibility. Of course, any new managed lane capacity must fit into the overall regional roadway system. The "Regional Value Pricing Corridor Evaluation and Feasibility Study", commissioned by the North Central Texas Council of Governments and completed in June 2005, is an example of a study that addresses system-level issues.

Also important is how transit fits into a proposed managed lane scheme. Some stakeholders may favor transit investment over managed lanes, even if these lanes are partially or wholly funded by tolls. Confronting this issue is essential (before it creates steep hurdles in the planning process.) Colorado has addressed these concerns on a project by project basis. For one project, they've actually bundled managed lanes with bus rapid transit (BRT) so the investment satisfies both groups. Multimodal considerations play a role in establishing managed lane feasibility and operating policy in Dallas as well. Existing policy provides incentives to transit and HOV travel, and the traffic and revenue studies take this into account as they project various levels of ridership by mode. It is important to note that this technical process is not yet completely integrated into the existing modeling work done by the Metropolitan Planning Organization. Rather, these projections have been developed through post processing. Eventually, these managed lanes analysis procedures may be introduced directly into the model stream.

B. Design Considerations

Just as the managed lane planning and development process is still evolving in metropolitan areas throughout the country, so too are managed lane design details. Managed lanes are unique facilities that serve unique purposes, and traditional highway design guidelines may not suffice in every case. Therefore, each new managed lane project necessitates a thorough design review.

Design Criteria

When asked about critical factors for establishing managed lanes design criteria, the three regions provided little feedback. Colorado indicated that universal design criteria have not yet been established, but that any criteria (e.g. barrier versus buffer separated, access points, etc.) would depend on the particular corridor. Dallas reiterated this in

January 2010

their response. They stated that the design criteria will generally match the freeway and HOV criteria due to similarities in speed profiles and offset requirements.

Colorado has provided example cross sections from their C-470 Express Lanes Feasibility Study. These can be seen in Appendix B. Specific design criteria used for this express lane alternative came from several sources: CDOT Transportation Design Guide (1995), A Policy on Geometric Design of Highways and Streets (2001), Roadside Design Guide (2002), Colorado State Highway Access Code (2002), and the CALTRANS High Occupancy Vehicle Guidelines for Planning, Design, and Operations (2003). Dallas has provided a table describing proposed cross sections for planned managed lane facilities. This table follows.

Table 1: Proposed Cross Sections for Planned Managed Lane Facilities

Roadway	Description of the Managed Lanes Type: As Described Access: Slip, Direct, Continuous General Purpose: No. of Lanes Managed Lanes: No. of Lanes Lane Separation: Between GP & ML	Projected Opening
I-635 East	Interim Concurrent Median Slip and Direct "T" Ramps 4 EB Lanes & 4 WB Lanes 1 EB and 1 WB Vertical Plastic Pylons	Fall 2007 as HOV only, not priced until Jan 2010 **
US 75 North (#1)	Permanent Concurrent Median 3 to 4 SB Lanes & 4 to 3 NB Lanes 1 SB Lane and 1 NB Lane Vertical Plastic Pylons	Fall 2007 as HOV, not priced until Jan 2010 **
I-30 West Tom Landry (A) Now Open as an HOV Lane	Phased Reversible Median Slip Ramps 4 EB Lanes & 4 WB Lanes 2 to 1 EB Lanes & 1 to 2 WB Lanes Fixed Concrete Barrier	July 2007, not priced until mid 2008
I-30 West Tom Landry (B)	Phased Reversible Median Slip and Direct Wishbone (Y) Ramps 4 EB Lanes & 4 WB Lanes 3 to 2 EB Lanes & 2 to 3 WB Lanes Fixed Concrete Barrier	Open & Priced by 2012/15 or sooner for Super Bowl I 2011
I-30 West Tom Landry (C)	Phased Reversible Median Slip and Direct Wishbone (Y) Ramps 4 EB Lanes & 4 WB Lanes 3 to 2 EB Lanes & 2 to 3 WB Lanes Fixed Concrete Barrier	Open & Priced by 2025/30
I-635 West* Includes elevated direct connection ramps for Loop 12 and I-35E movements to/from I-635 West. Concession CDA	Concurrent Trench Median Slip and Direct Access Ramps 4 EB Lanes & 4 WB Lanes 2 to 3 EB Lanes & 2 to 3 Lanes WB Fixed Concrete Barrier	Open & Priced by 2014
I-635 East	Concurrent/Reversible Median Slip and Direct Access Ramps 5 EB Lanes & 5 WB Lanes 2 EB Lanes / 2 EB Rev. Lanes 2 WB Rev. Lanes / 2 WB Lanes Fixed Concrete Barrier	Open & Priced by 2025/30

Roadway	Description of the Managed Lanes Type: As Described Access: Slip, Direct, Continuous General Purpose: No. of Lanes Managed Lanes: No. of Lanes Lane Separation: Between GP & ML	Projected Opening
I-35E North (#1) From IH 635 To PGBT	Concurrent/Reversible Median Slip and Direct Access Ramps 5 to 4 SB Lanes & 5 to 4 NB Lanes 2 NB Reversible Lanes 2 SB Reversible Lanes Fixed Concrete Barrier	Open & Priced by 2025/30
I-35E North (#2) From PGBT to US 380	Phased Reversible Median Slip and Direct Ramps 4 NB Lanes & 4 NB Lanes Varies – 2 to 1 SB Lanes Varies – 1 to two 2 NB Lanes Fixed Concrete Barrier	Open & Priced by 2015
US 75 North (#2) From SH 121 South To North of SH 121 North	Phased Reversible Median Slip and Direct Ramps 4 to 3 SB Lanes & 4 to 3 NB Lanes 2 Rev SB Lanes & 1 SB Lane 1 NB lane and 2 Rev NB Lanes 2 to 1 SB Lanes Fixed Concrete Barrier	Open & Priced post 2015
Southern Gateway I-35E South / US 67	Concurrent Median Slip and Direct Access Ramps 3/4/5 NB Lanes & 5/4/3 SB Lanes 1 to NB Lanes & 2 to 1 SB Lanes Fixed Concrete Barrier	Open Priced by 2025/2030
SH 183	Concurrent Median Slip and Direct Access Ramps 4 EB Lanes & 4 WB Lanes 2 EB Lanes & 2 Lanes WB Fixed Concrete Barrier	Open & Priced by 2025/2030
Loop 12 / Spur 408	Concurrent Median Slip and Direct Access Ramps 3 EB Lanes & 3 WB Lanes 1 NB Lane & 1 SB Fixed Concrete Barrier	Open & Priced by 2025/2030
SH 114	Concurrent Median Slip and Direct Access Ramps 3 EB Lanes & 3 WB Lanes 2 EB Lanes & 2 Lanes WB Fixed Concrete Barrier	Open & Priced by 2025/2030
I-30 and US 80	Concurrent Median Slip and Direct Access Ramps 3 EB Lanes & 3 WB Lanes Varies – 1/1 Concurrent EB and WB Varies – 1 EB and WB Rev. Lane Fixed Concrete Barrier	Open & Priced by 2025/2030
DFW Connector - SH 114/SH 121* Design Build CDA	Concurrent Median Slip and Direct Access Ramps 5 EB/NB Lanes & 5 SB/WB Lanes 2 EB/NB Lanes & 2 SB/WB Lanes Fixed Concrete Barrier	Open & Priced by 2012
North Tarrant Express - I-35W* Pre-Development CDA	Concurrent Median Slip and Direct Access Ramps 4 EB Lanes & 4 WB Lanes 2 to 3 SB Lanes & 2 NB Lanes	Open & Priced post 2015

Roadway	Description of the Managed Lanes Type: As Described Access: Slip, Direct, Continuous General Purpose: No. of Lanes Managed Lanes: No. of Lanes Lane Separation: Between GP & ML	Projected Opening
North Tarrant Express - I-820* Pre- Development CDA	Fixed Concrete Barrier Concurrent Median Slip and Direct Access Ramps 4 EB Lanes & 4 WB Lanes 2 EB Lanes & 2 WB Lanes Fixed Concrete Barrier	Open & Priced by 2015
North Tarrant Express - SH 183* Pre-Development CDA	Concurrent Median Slip and Direct Access Ramps 3 EB Lanes & 3 WB Lanes 3 EB Lanes & 3 WB Lanes Fixed Concrete Barrier	Open – TBD post 2015

Both Colorado and Dallas have proposed design exceptions to accommodate managed lane infrastructure. One project in Colorado included a proposal with narrow shoulders. In Dallas, there have been offset and shoulder width exceptions submitted as part of HOV and managed lane corridors. They have also included provisions for break down areas, emergency management, and enforcement. These have occurred in the design phase when exceptions requests are deemed unavoidable. As in Colorado, design exceptions are generally not addressed in the planning phase.

In cases where capacity is added to create new managed lanes, adequate right of way must be secured. All three regions have considered alternatives that include right of way acquisition. Colorado adds that these instances have the potential to create controversy when there is a discussion of whether to use new right-of-way for managed lanes or transit.

Access

A key design detail for managed lanes is access, both in terms of access to other managed lane systems, and access to adjacent general purpose lanes. Access configuration is critical because it impacts vehicle speed and capacity on both the managed lanes and the mainline. In Colorado, managed lane planning has not yet addressed system to system access because future projects involve only isolated segments of the highway network. Houston also has yet to design any such managed lane interchanges. These lanes currently egress at transit centers or at-grade intersections and the users connect to other systems themselves. In Dallas an HOV/Managed Lanes System Plan has been developed to support the regional planning efforts for the managed lanes in the Dallas/Ft. Worth area. This was a separate process used to identify number of lanes and potential bottleneck locations.

Locating managed lane access points is another key challenge. In both Colorado and Dallas, decisions on where to locate access points are based primarily on demand and cost. However, Colorado admits that some of the access locations were also politically driven. In Dallas, they seek to provide access points at intermediate locations. They try not to use auxiliary lanes with exit and entrance tapers. Instead they work to have a conscious entrance decision with a diverge lane and added lanes upon exit to avoid any

exit merge situations. Internal access locations are ideally wishbone, T or other elevated structures that do not create merge/weave issues. In Houston, they seek to provide HOV access every five miles using various designs. Most are ramps from park and ride lots that have local street access.

Flexibility

Regions studying managed lanes need to consider designs that provide the necessary flexibility to respond to changes in demand. These three regions are all taking steps to incorporate flexibility into their plans. On one project in Colorado, planners are considering phased implementation. Initially the project would build one buffer-separated lane in each direction with accommodations (bridge widths, etc.) that enable future expansion to an ultimate solution with two barrier-separated lanes with BRT and in-line stations. Dallas notes that most of their corridors will be built out after the addition of managed lanes, and subsequently their flexibility lies more in their pricing and eligibility structure. They do mention that some managed lane projects could be phased in, like in Colorado, with some lanes opening later as demand increases and funding becomes available. The Texas Transportation Institute is looking into truck lanes in Houston, and any managed lanes would presumably maintain the flexibility to accommodate trucks at some point in the future.

Managed lanes can also be designed with the flexibility to meet the demand from peak directional flows through contraflow and moveable barrier systems. Reversible lanes have been considered in Houston, as have diamond lanes on the inside shoulder. In Dallas, one moveable barrier system has been extended on an operating HOV lane. They do not have any future planned moveable barriers due to the expense of the machine and physical project limitations suited for this type of application. Alternatively, they have chosen to implement more pylon separated HOV/Managed Lanes to ease the infrastructure impacts of a solid barrier. The pylon is a virtual solid barrier. The high cost of replacement, however, may lead to a re-evaluation of this approach.

C. Systems Operations and Maintenance

In addition to planning and design considerations, regions studying managed lanes must address operations and maintenance (O&M) issues. Since operating conditions and road quality are so clearly visible to the driving public, they hold significant sway in citizens' impressions of and attitudes toward managed lanes. For a managed lane program to be successful, O&M must be handled well from the outset. Managed lanes are often revenue generating facilities, and some or all of O&M costs are expected to be covered by this revenue. This introduces additional complexity, because regions are most familiar with traditional appropriation methods that involve applying tax dollars to public works projects. These lanes create funding silos that must be managed separately from general gas tax revenues.

Performance

Due to the initial success of the I-25 HOT lanes, Colorado is considering additional managed projects on a case by case basis. Not only has revenue generation exceeded

expectations (\$800,000 projected in year one and \$2,100,000 collected), but the HOT lanes have also performed well according to other measures. The relative success of these lanes is measured by travel time / time saved, transit delay, usage, revenue, and general congestion mitigation. Dallas, which does not have any operating priced lanes yet, has a value pricing study underway that is examining potential performance measures. The actual indices and metrics that prove most valuable for evaluating performance will be determined once real data is available. However, preliminary thresholds have been established, including speeds of 50 mph or greater on the managed lanes and increasing volumes for all modes (SOV, HOV, Vanpool, and Buses). In Houston, the operational target for HOT lanes is level of service C, which is assumed to occur at average speeds of approximately 45 mph.

Details

Other O&M considerations unique to managed lanes include occupancy verification, payment enforcement, maintenance scheduling, and responsibility for maintenance activity. In Houston, electronic tolling will include declaration lanes for HOT and HOV, with Metro police observing from toll booths to enforce lane restrictions. Operations plans must also carefully consider the use of moveable barrier systems. While these systems can enable more efficient use of road space, the machine used to move the barrier is expensive to operate, and when it breaks these lanes cannot be opened.

In Colorado, maintenance of managed lanes has been outsourced to a private contractor with specific performance criteria. Agency maintenance crews are already stretched thin, and this arrangement allows them to focus on maintaining what exists rather than diverting resources to provide the higher level of maintenance expected on the managed lanes. Houston has developed a RFP to collect private proposals for operations and incident management. Dallas has noted reservations with outsourcing maintenance to the private sector for publicly financed managed lanes because of coordination issues. But they agree that outsourcing for privately financed lanes should be considered partly because it is best to keep construction, operation, and maintenance together for adequate risk transfer.

Both Colorado and Dallas provided some final thoughts on moving forward with O&M for managed lanes. First, they stressed the importance of having complete interoperability among toll systems, not just toll systems that can read each others' data. Also mentioned was the valuable experience that toll operators and transit providers already have in O&M for toll roads and HOV lanes. This experience should be leveraged as new policies and procedures are developed for managed lanes in these regions.

D. Communications and Outreach

As with any large infrastructure project, the development of managed lanes will require extensive public involvement and outreach. The three regions involved in this peer review have provided input into outreach and marketing tools, political environment, and public relations strategy.

Education and Involvement

Managed lanes and roadway pricing are relatively new ideas in many regions. Getting the public involved early is therefore critical to fostering widespread understanding and support for these types of projects. Traditional toll roads are more common than managed lanes, and much of the public is at least familiar with the concept of paying to travel on certain roads. It is important however that the intricacies involved in managing certain lanes on a roadway be accurately and effectively communicated to the traveling public. These three participating regions have employed a number of outreach program strategies to support managed lane initiatives. Public meetings are one common method for reaching interested parties. The peers in this study have used these meetings to target the general public as well as private businesses, stakeholder groups, media, organized carpools, industry partners, local government, and elected officials.

Educating these groups on managed lanes projects and the actual use of managed lanes (e.g. HOT lanes) has taken many forms. Public meetings provide a forum for several successful techniques including presentations, brochures and handouts, visualization tools, and schematics. The web has also become an integral tool in disseminating information and educating the public. Earned and paid media can also be very effective in this regard. Other techniques include promotional videos, research studies, newsletter articles, and surveys. As managed lane projects get closer to implementation, effective educational tools include printed collateral (stickers, buttons, posters), billboards, and public service announcements.

The educational process does not stop after managed lanes are fully operational. A public relations effort is necessary to keep the public informed of changes, and to educate those who were missed in earlier campaigns. Colorado has stressed the importance of forgiveness and flexibility in the early stages of project implementation. First-time violators need not always be fined. Violations present an opportunity to educate those who may have been unfamiliar with new operating policies. In addition, signage and striping need to be flexible. As the system comes online, potential improvements to these will become apparent, and it must be possible to make such changes as needed.

Public relations for managed lanes projects is outside of the experience of most public agencies. The three regions surveyed have all supplemented in-house staff with private consulting firms. These firms have been tasked with research and material development all the way to running PR campaigns. For Colorado's I-25 HOT lanes project, the public relations formula seems to have been a success so far. The public has greatly supported the project, and the number of toll payers using the lanes has increased each month. By and large it has been a very positive project that is well received by the public.

Marketing

Education and outreach help to communicate the story of managed lanes. But to effectively market the ideas to the public, and get them to wholeheartedly support plans to add priced capacity, public agencies need strong selling points and a strong sales team. Colorado's I-25 HOT lanes were presented under the banner: More Choice, Less

Congestion, Better Quality of Life. Both Colorado and Dallas have stressed a number of key messages, including:

- Flexible, reliable choices open to more people
- High-performance alternative to congestion
- Pilot project with a grace period
- Drivers can use any lane, except at the toll collection zone
- Environmentally responsible
- Highways improved without increased highway funding
- Sustainable transportation system
- Smoother traffic flow due to vehicle sorting

Both citizen and political champions can be important to advancing key messages, building public support for managed lanes, and navigating the political environment under which these issues are debated. Political champions did emerge in Colorado, particularly the sponsor of the bill that allowed HOT lanes, and these champions took care to educate other elected officials to create understanding and support. A citizen champion was utilized in Dallas during the planning process to get the public onboard. Dallas is of the philosophy that community support begets political support, and that it is best to first get the public to buy into the regional plan for managed lanes. However, Colorado is further along than Dallas, with operational managed lanes in place. Subsequently, Colorado has encountered greater opposition, especially from local governments concerned that they aren't getting their "fair share" of free lanes. There is also the perception that managed lanes will create a much greater demand on local roads as drivers will avoid the toll lanes. Citizen and political champions in Dallas, and elsewhere, will most likely have to address these important issues as they build their case for managed lane support.

E. Public-Private Partnerships

Public-Private Partnerships (PPP) can be effective in advancing managed lanes projects. In an era when many regions are facing gaps between transportation needs and funding, teaming with the private sector introduces new sources of capital. Unfortunately, the three peer review regions do not have extensive experience to share regarding PPP. None of them have any HOT lane projects that have been implemented through this method; though it was noted that four projects in Texas, which include the managed lane concept, are under active procurement for PPP.

Administration

Even though no active PPP managed lane projects are operational in these regions, the legislative capacity to consider such proposals from the private sector does exist. The 2002 House Bill that authorized the Colorado Tolling Enterprise (CTE) explicitly gave their board the authority to "make and enter into contracts or agreements with private,

non-profit or public entities to facilitate public-private partnership”. This legislation also requires that “a toll highway financed, constructed, operated, or maintained pursuant to...shall conform to and be an approved part of the applicable regional transportation plan and the statewide transportation plan developed pursuant to...”.

Senate Bill 795 in Texas gives the local toll authority first right of refusal with regard to new toll projects. However, the private sector can propose and enter into PPPs. The Comprehensive Development Agreement is the tool TxDOT uses to enable private investments in the Texas transportation system. It provides a competitive selection process for developing projects. This process includes the development of a facility concession agreement which outlines the terms and conditions of the relationship between the public agency and private concessionaire⁴. This document covers relevant details of the arrangement, including design, construction, operation, maintenance, and financing.

Realities

A public private partnership opens the door to accelerated financing, design, construction, operation, and/or maintenance of a project. Dallas states that when the procurement is successfully completed it will have accelerated the ability to implement/complete these projects. They fully expect project delivery times to be cut by over one-half when using the PPP process.

Public agencies abdicate tremendous responsibility, and risk, when entering into PPPs. But to some extent, these agencies are still able to steer the process. They do retain control of toll rates and usually have input into the goals of the facility or system. The CTE establishes toll price rates and caps, as does the regional tolling authority in Texas. As the bodies that evaluate private proposals, the public entities also have control over the specific criteria used to decide whether or not to move forward. The CTE focuses on financial viability when evaluating potential PPPs. In Dallas, they have established priority corridors for managed lane projects in their regional plans. The private sector proposals have focused on these specific corridors. The public agency also works with the private entity to establish any concession period. Currently in Dallas, the maximum length for a concession is fifty-two years, including a two year implementation period from the issuance of notice to proceed. The CTE meanwhile remains “cautious and open-minded” with regard to long-term concessions.

F. Lessons Learned

These three participating regions have acquired a wealth of knowledge on managed lanes, ranging from planning to design, operations, and even community outreach. Following are the complete responses, in their own words, to a number of questions on lessons learned. It is intended that these lessons will prove valuable as GDOT continues its investigation of managed lane strategies.

⁴ For an example agreement in Texas, see ftp://ftp.dot.state.tx.us/pub/txdotinfo/ta/sh130_cda/facil_concession_agmt.pdf
Last accessed March 14, 2008.

January 2010

Are there any things you would do differently when studying and identifying HOT lane projects?

Colorado: More internal education within [CTE] to inspire creativity and ensure a higher level of understanding as managed lanes projects are unique and do not necessarily require traditional engineering and construction methods.

More one-on-one work with political champions.

Dallas: Reinforce the importance of regional MPO support for your efforts. It is likely policies will need to be set at their level for acceptance locally.

Find a project Champion to help through the feasibility and planning phases most importantly. That is where you interact with the public and will engage any not in favor of pricing. This is also where you can recruit and find your ambassadors for pricing to help sell it in the long run.

It is important that you gain a base of understanding in the community to assist in explaining to their peers the real projects that are being proposed.

It is important to have City, County, MPO, Transit and Toll Authority staff in attendance and in support of your project efforts. Involve them in your meetings. Have regular technical and advisory committee meetings on a monthly basis.

Are there any things you would do differently in terms of public education and outreach?

Colorado: We placed too much emphasis on the financial feasibility and not enough on the sustainable congestion management benefits.

Dallas: Start sooner, keep it going, and utilize technical experts outside of the DOT's direct umbrella to bring credibility to the efforts; i.e. research universities and other consultants.

Are there any things you would do differently in terms of dealing with elected officials?

Colorado: Same as previous

Dallas: Start sooner, keep it going, identify multiple champions and have them serve on your advisory panels.

Are there any things you would do differently in interacting with planning partners?

Colorado: Success is more likely if the elected officials advocate for the project, not the agency. We would ensure that local governments take the leadership role, not the agency.

Dallas: Start sooner, keep it going, and identify specific points of contact that can cross project lines.

Are there any things you would do differently in interacting with the private sector?

Colorado: No

Dallas: Be receptive to the input that is provided. Keep them engaged and informed. Note where input has been incorporated. This applies to the public as well.

Please identify what you consider to be the three most critical factors for successful managed lane planning, implementation and operation.

Colorado: Adequate staffing with high-level agency champion, focus on customer service and sensitivity when dealing with violators. The bottom line is flexibility.

Dallas: Tough final question:

- P – Planning – Identify real people to help you talk; Hold many meetings at the early stages; Include the technical review comments ASAP for later streamlining
- I – Implementation – Pick a good project to start; Fully engage the design and construction personnel sooner; Think it through for a complete plan A to Z
- O – Operations – Signing; Public outreach and Marketing campaign; Identify an operation crew that will be responsive to change when it opens (Cut down agency barriers with a good (SOP) Standard Operating Procedure).

Final Note:

It is important as to what you call your lanes. TxDOT is a big state and has many of these projects in the works. Over the next several years certain names will be tried in concert with the development of Manual on Uniform Traffic Control Devices (MUTCD) guidance. Stay tuned for how those developments get included as we move to the implementation side of the ML projects. If you have an operating HOV lane the FHWA has pretty much geared the HOV to HOT program and naming scheme for that approach. If the lanes will be new the Express program may be more suited from an implementation standpoint. It is tough to name and sign these facilities to help direct the driver correctly.

APPENDIX A

CTE AD HOC ADVISORY COMMITTEE

Report and Recommendations
November 15, 2005

A. Introduction

Over the past ten years, Colorado has been evaluating creative methods to finance transportation in Colorado. Key among those measures is the concept of tolling new roadway capacity. In 2002, House Bill 1310 (CRS 43-4-801-12) authorized the Colorado Transportation Commission (TC) to create the Colorado Tolling Enterprise (CTE) to implement, operate and maintain new tolled capacity. In 2005, the legislature provided additional clarification to the authorizing legislation in House Bill 05-1148. The recommendations in this report are consistent with, and provide guidance on how to implement the requirements in HB05-1148.

The TC serves as the board of CTE which appoints the director of the enterprise with the consent of the Colorado Department of Transportation (CDOT) Executive Director.

The enterprise is a Division of the CDOT and operates as a “government owned business”. The CTE is an enterprise as long as they issue revenue bonds and receive less than 10% of annual revenues from state and/or local governments.

The CTE Board has the authority, among other responsibilities, to:

- Issue revenue bonds
- Designate a state toll highway, or system of toll highways
- Establish and charge tolls
- Acquire by purchase, gift, grant or condemnation rights of way
- Make and enter into contracts or agreements with private, non-profit or public entities to facilitate public-private partnership
- Acquire, construct, relocate, operate, regulate, and maintain toll highways, including toll stations
- Transfer money, property or other assets to CDOT

The legislation authorizing CTE also requires that:

“A toll highway financed, constructed, operated, or maintained pursuant to this part 8 shall conform to and be an approved part of the applicable regional transportation plan and the statewide transportation plan developed pursuant to section 43-1-1103.”

HB05-1148 clarified that:

“The Board shall develop a plan for the construction of a toll highway that addresses the operation of the toll highway, the technology to be utilized, the project feasibility, the project financing, and any other federally required information. Each toll highway plan in a toll highway system shall be separately approved by each metropolitan planning organization or regional planning commission that is located in whole or in part within the toll highway system.”

B. Creation of the Ad Hoc Committee on Tolling

Tolling is a new concept for Colorado and there are many issues to work out prior to implementation, including the development of policies and processes that guide decision making. Recognizing the need for a well coordinated decision making process and an integrated regional and statewide transportation system, and, recognizing that existing transportation planning processes are sound, and not wanting to create a whole new process, the CTE Board invited potentially affected planning partners to participate in this Ad Hoc Committee on Tolling (The Committee) to provide advice to CTE and as appropriate CDOT/TC.

C. Committee Structure/Membership

The CTE requested participation from planning partners whose area includes potential tolling facilities as identified through an initial round of technical and financial screening studies. The invited membership consisted of 22 board and/or executive staff members from potentially affected regional planning agencies as indicated in Figure 1.

Figure 1: Ad Hoc Committee on Tolling Membership

- Denver Regional Council of Governments Board (DRCOG)
 - Lorraine Anderson – Councilmember, City of Arvada
 - Bob Broom – Councilmember, City of Aurora
 - Rene Bullock – Councilmember, Commerce City
 - Happy Haynes – Council Liaison, City and Council of Denver
 - Bill Macy – Councilmember, City of Idaho Springs
 - Bob Nelson – Mayor Pro Tem, City of Golden
 - Jack O’Boyle – Mayor, City of Lone Tree
 - Karen Stuart – Mayor, City and County of Broomfield
 - Will Toor – County Commissioner, Boulder County
- Pikes Peak Area Council of Governments Board (PPACG)
 - Jerry Heimlicher – Councilmember, City of Colorado Springs
 - Wayne Williams – County Commissioner, El Paso County
- North Front Range Transportation and Air Quality Planning Council Board (NFR)
 - Glenn Gibson – County Commissioner, Larimer County
 - Kurt Kastein – Councilmember, City of Fort Collins
- Upper Front Range Regional Planning Council
 - Mike Geile – County Commissioner, Weld County
- Intermountain Regional Planning Council
 - Mick Ireland – Pitkin County Commissioner
- Denver Regional Transit District (RTD) Board
 - Bill McMullen – Board Member, RTD District E
- Federal Highway Administration (FHWA)
 - David Nicol – Colorado Division Administrator
- Colorado Toll Enterprise Board (CTE)
 - Terry Schooler – Board Member
 - Joseph Jehn – Board Member
 - Joseph Blake – Board Member
 - Douglas Aden – Board Member
- CTE Acting Executive Director
 - Peggy Catlin

The Committee agreed to operate on a consensus basis and recognized there may be need to allow for minority reports should a committee member so desire. No committee members have submitted minority reports.

D. Committee Charge

The Committee was created to advise the TC and the CTE Board regarding “policy and process on toll road planning and implementation”. It was convened on January 25, 2005 and has met 9 times.

The Colorado Toll Enterprise and the Transportation Commission (CTE/TC) suggested that the Committee may wish to consider issues related to:

- Designation of Statewide Tolling System
- Roles and Responsibilities of Affected Agencies
- Toll System Framework and Relationship to the Transportation System
- Business Factors of Tolling

E. Expectations/Definitions of Success

Based on the charge to the Committee, the membership defined more specifically their expectations, and a common definition of success. The definition of success developed by the Committee is summarized in Figure 2:

Figure 2: Expectations/Definitions of Success

- Define a process for how tolling decisions are made
- Identify roles and responsibilities related to the decision processes
- Use existing processes as much as possible
- Define questions that need to be answered regarding tolling during the decision process
- Incorporate business factors of tolling into the decision process

F. Ad Hoc Committee Recommendations

Following a series of informational and background presentations on tolling and the statutory basis and structure of transportation planning in Colorado, the Committee structured their work by considering when in the decision-making process specific issues and concerns should be addressed.

In this effort, the Committee identified 56 questions/issues in seven categories related to major steps in the decision-making process from policy to implementation. The Committee then discussed and developed consensus recommendations on the following areas:

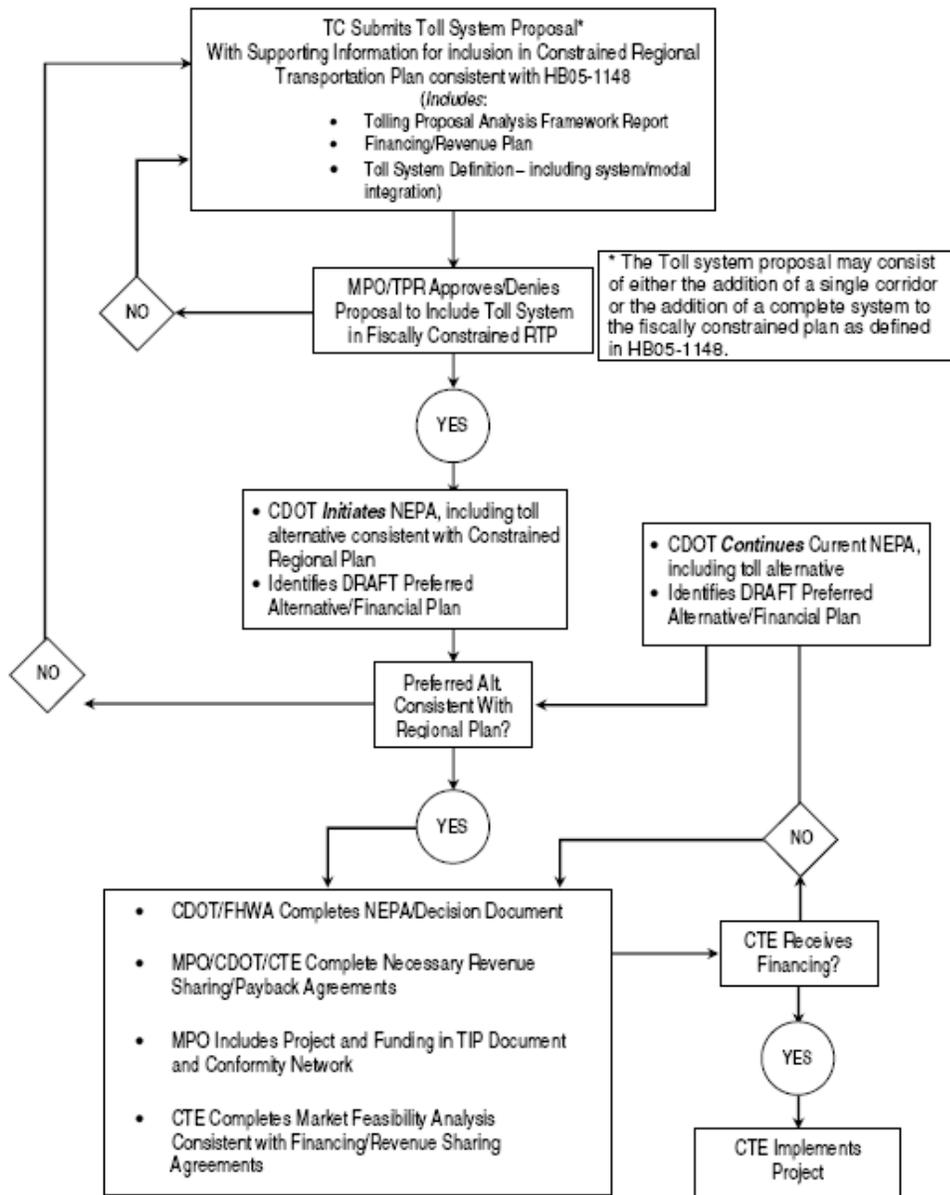
- Toll Related Decision Processes
- Roles and Responsibilities in Toll Related Decision-making
- Toll System Regional Transportation Plan Amendment Analysis Framework
- Identification of Key Policy Issues and Recommended Policy Positions.

Each of these areas recommendations are discussed in greater detail in Sections g through j.

G. Toll Related Decision-making Process

The Ad Hoc Committee identified the primary steps and key decision points in the tolling related planning process. There are a number of different steps by different public agencies and partners in the decision to implement a toll facility in Colorado. The proposed process is illustrated in the flow chart in Figure 3.

Figure 3: Tolling Decision Process



H. Roles and Responsibilities in Toll Related Decision-making

One key difference between a toll revenue funded project and the traditional tax supported transportation project is the important role of the private sector in the decision to fund a proposed project. The metropolitan planning organization (MPO) regional planning process includes representation from local governments, regional transit providers, CDOT and the regional or state air quality agencies. Most, if not all, toll projects will involve funding by the private financial markets and/or other contributions by the private sector. It is therefore necessary for any proposal that includes toll revenue based financing be acceptable to the financial markets, and perhaps the private sector for implementation and operation.

A summary of the key roles and responsibilities of the partner agencies in the toll decision-making process is provided Figure 4.

I. Toll System/Regional Transportation Plan Amendment Analysis Framework

The Committee also identified the critical topics that should be addressed in any proposed amendment to a regional transportation plan that includes a tolling system or facility. Each topic identified in the matrix in Figure 5 should be addressed as indicated in the technical documentation supporting a request to include a tolling system related Regional Transportation Plan (RTP) amendment.

The Committee recognized that a proposal to amend the regional plan would need to meet the federal and state requirements regarding fiscal constraint by developing a planning level “Financing/Revenue Plan” based on the toll system defined in the proposed amendment. The plan should include a planning level financial analysis that addresses how revenues and costs of toll facilities relate to system implementation timing and corridor phasing, revenue and cost sharing among corridors, as well as system financing assumptions, consistent with the criteria identified in the “Financial Analysis” portion of the framework identified in Figure 5.

The Committee recognized that such a financial analysis would be based on the information and detail available at a planning level, and as a specific proposal makes its way through the process described in Figure 3, additional detail would be provided and documented in the Market Feasibility Analysis and any necessary revenue sharing agreements.

The Committee also recognized that if a RTP amendment submittal adequately addresses the topics as identified in the Framework Matrix below, the Regional

Planning Commission/MPO Boards will have sufficient information from which to take action on a proposed amendment. Figure 4: Summary of Roles and Responsibilities

Figure 4: Summary of Roles and Responsibilities

COLORADO TRANSPORTATION COMMISSION

- Establish Statewide Transportation Policy.
- Approve STIP and Statewide Transportation Plan.
- Approve new interchanges/interchange modifications on State Highways, use of state highway rights-of-way.
- Propose designation of state toll highways/system.

STATE TRANSPORTATION ADVISORY COMMITTEE

- Advise CDOT on Transportation Planning Issues.
- Reviews Regional and Statewide Transportation Plans.

COLORADO TOLLING ENTERPRISE (CTE) BOARD

- Designates state toll facility
- Adopts Operating Procedures/Business Plan.
- Decision regarding financing/issuance of revenue bonds.
- Develop operational, maintenance, and construction policies and standards.
- Coordinates with state and regional transportation plans.

COLORADO DEPARTMENT OF TRANSPORTATION (CDOT)

- Facilitate, support, and implement Transportation Commission policy development and direction.
- Negotiate implementation, operation, and maintenance agreements with CTE.
- Conduct appropriate planning, engineering, and environmental reviews, clearances, and studies to ensure compliance with Commission Policy, state, and federal law and regulations.

TRANSPORTATION PLANNING REGIONS/METROPOLITAN PLANNING ORGANIZATIONS (TPR/MPO)

- Review and approve a toll highway plan per HB05-1148
- Consider proposals to include tolling facilities/system in fiscally constrained Regional Transportation Plan (Plan amendment process to be defined by the TPR/MPO).
- Develop and adopt policies, regional plans, and Transportation Improvement Programs in compliance with state and federal law and regulation.
- Comment and participate in development of Commission and Enterprise Board policy.
- Participate in environmental review and evaluation of NEPA documents on toll corridors.

LOCAL GOVERNMENTS

- Comment and participate in development of Commission and Enterprise Board policy.
- Participate in regional planning process with applicable transportation planning region
- Participate in NEPA Process and the review and evaluation of NEPA documents

FEDERAL HIGHWAY ADMINISTRATION/FEDERAL TRANSIT ADMINISTRATION (FHWA/FTA)

- Review and act on proposals that affect interstate facilities.
- Produce, review, and act on NEPA documents resulting from federal actions.
- Approve TIP/STIP and conformity findings.
- Review and act on possible financing requests.

ENVIRONMENTAL RESOURCE AGENCIES

- Participate in MPO/TPR Planning Process
- Participate in NEPA process
- Ensure compliance with environmental laws/permits as necessary

PRIVATE SECTOR

- Respond to Request for Proposals by CTE.
- Propose public/private initiative opportunities to CTE.
- Financing of proposed toll facilities. Figure 5: Toll System/Regional Transportation Plan Amendment Analysis Framework

Figure 5: Toll System/Regional Transportation Plan Amendment Analysis Framework

FIGURE 5: TOLL SYSTEM/REGIONAL TRANSPORTATION PLAN AMENDMENT ANALYSIS FRAMEWORK		
TOPIC	MEASURE	METHOD
General Purpose Lane Impacts– planning level comparison of tolling, general purpose lane, and no-action alternatives (peak period)	<ul style="list-style-type: none"> • Person miles of travel/person hours of travel. • Duration of congestion • Reliability • Travel time/speed • # of toll users/vehicles on facility • % share of total corridor peak hour trips by toll users • Peak period volume/capacity/Level of Service by lane type 	<ul style="list-style-type: none"> • MPO transportation model output in DRCOG area. PPACG and NFR level of analysis will vary depending on model capability. Analysis may require analysis separate from regional model. Where available CTE and MPO modeling will be compared and validated.
Local Transportation Network Impacts	<ul style="list-style-type: none"> • Traffic impact on local transportation network with and without toll system. • Potential mitigation for anticipated impacts to local network per HB05-1148 	<ul style="list-style-type: none"> • MPO transportation model output to minor arterial level, combined with corridor specific analysis to evaluate impacts on collectors. • Where available CTE and MPO modeling will be compared and validated.
Rail Transit Impacts	<ul style="list-style-type: none"> • Impact of toll system on ridership. 	<ul style="list-style-type: none"> • MPO Model.
Other Mode Impacts	<ul style="list-style-type: none"> • Impact of toll system on general transit/bus rapid transit/carpool/vanpool (person trips/travel time) • Peak hour mode share in toll lanes and general purpose lanes • Bike and pedestrian impact 	<ul style="list-style-type: none"> • MPO transportation model output in DRCOG area. PPACG and NFR level of analysis will vary depending on model capability. Analysis may require analysis separate from regional model. Where available CTE and MPO modeling will be compared and validated. • Comparison to applicable local and regional plans
Toll Facility Design	<ul style="list-style-type: none"> • Concrete barrier separated. • Interchange/access locations. • Number of lanes • Connection/transitions to general purpose lanes • Associated necessary state and local roadway improvements 	<ul style="list-style-type: none"> • System description consistent with Updated CTE Traffic and Revenue Study and NEPA, as appropriate.
Toll Facility Operations	<ul style="list-style-type: none"> • Average level of service/speed • Access by other modes • System interoperability. 	<ul style="list-style-type: none"> • System description from Updated CTE Traffic and Revenue Study and NEPA, as appropriate.
Right-of-Way Analysis	<ul style="list-style-type: none"> • Impact of toll system on right-of-way/cost to implement. • Available right-of-way analysis regarding general purpose lanes, tolling, rapid transit. 	<ul style="list-style-type: none"> • Corridor specific/planning level analysis of available right-of-way and modes identified for corridor in Regional Plan.

Financial Analysis	<ul style="list-style-type: none"> Analysis of how separate toll facilities relate to system implementation/phasing: <ul style="list-style-type: none"> Revenue Cost Cost/user (toll and general purpose lane) Cost/passenger – mile (toll and general purpose lane) Timing/corridor phasing. Revenue/cost sharing among corridors Financing (including federal/state/local/other) Life cycle cost (Total capital, administrative & O&M costs of proposed system/corridor) for toll and general purpose lane) Anticipated toll fee structure Financial responsibility if revenue projections not met. 	<ul style="list-style-type: none"> Updated CTE Traffic and Revenue Study
Environmental Impacts	<ul style="list-style-type: none"> Air emissions. Land use implications of tolling. Noise Other corridor specific issues (ie wildlife crossings) 	<ul style="list-style-type: none"> Air Quality - MOBILE 6 Emissions Model/MOVES as appropriate Land Use - Consistency with Regional Plan policies. Noise - Screening level analysis of noise impacts.
Social Impacts	<ul style="list-style-type: none"> User demographic analysis. Toll rate impact on equity. Number of relocations/right-of-way to implement (demographic analysis of impacts). 	<ul style="list-style-type: none"> User - Study of current similar facilities. Equity - Literature search. Demographic Analysis - Census based analysis.
Economic Analysis	<ul style="list-style-type: none"> Cost of implementation with and without tolls (life cycle costs). Incorporate time/cost analysis (how much is saved by building now versus later). Effect of tolling on existing and new businesses: Geographic competitiveness. Relocation/expansion decisions of tolling, general purpose, no-action. Time value to businesses. Cost/user and cost/passenger mile of toll lane and GP lanes 	<ul style="list-style-type: none"> Life cycle cost analysis – Updated CTE Traffic and Feasibility Study Time/Cost - Identification of average construction cost increase, and discussion of cost increases/year of delay/cost of congestion until construction occurs Business Effect - Qualitative/rely on survey of recent relocations along E-470/NW quadrant, other literature and available research and consultation with economical development agencies.
Other	<ul style="list-style-type: none"> Expectations of public/local residents. 	<ul style="list-style-type: none"> ID unique circumstances specific to each corridor.

J. Identification of Key Policy Questions and Recommended Responses

The Committee identified a number of key policy questions or issues that they felt would need to be addressed and resolved before they felt a Regional Planning Council/MPO Board would be willing to take action on a proposed amendment to include a tolling system or facility in a regional transportation plan. These issues and recommended responses are summarized in Figure 6.

Figure 6: Summary of Policy Recommendations

Figure 6: SUMMARY OF POLICY RECOMMENDATIONS
<p>Policy Issue 1: CDOT resource allocation</p> <ol style="list-style-type: none"> a. Any tolling decision by CTE should not reduce the allocation of TC funding to the region in which the facility or system lies. b. Tolling revenue should not be considered when calculating the proportion of state or federal highway funds received by a transportation planning region or CDOT region. c. Toll facilities should not be included in the state highway inventory used for resource allocation purposes.
<p>Policy Issue 2: Definition of a toll system</p> <ol style="list-style-type: none"> a. An integrated toll system should be defined as a network of toll facilities and toll corridor improvements identified in the adopted regional transportation plan. b. Revenue sharing may occur among facilities within an integrated toll system. c. Revenue sharing between toll facilities on an integrated toll system must be within the same TPR/MPO or, when the system crosses TPR/MPO boundaries, with the mutual agreement from the adjoining TPR/MPOs. d. CTE is encouraged to undertake a public education campaign before proposing an amendment to include specific toll facility or system in a regional plan.
<p>Policy Issue 3: Integration of other modes into the toll system</p> <ol style="list-style-type: none"> a. It is appropriate to acknowledge and pursue ways to integrate tolling and other modes. The decision on whether/how to integrate alternative modes into a toll system/corridor should be a cooperative CDOT/CTE-TPR/MPO decision based on Regional Transportation Plan, NEPA and financing decisions by bond markets. b. All assumptions will be refined through the regional plan/NEPA/market feasibility analyses. There are two opportunities for integration of alternative modes one - at initial project financing (item c below.) and two - if the toll facility generates revenue above that needed for operations and maintenance (item d below). c. Initial project financing may include "toll corridor related improvements" (defined in e. below) as part of the project scope as determined on a corridor specific basis and associated financial feasibility analysis. <ul style="list-style-type: none"> • Capital construction, financing and related obligations, maintenance, operations, replacement and responsibilities to bond holder should be the highest priority for toll revenues. • Public transit buses may use toll facilities free of charge • The decision on whether, or at what rate, High Occupancy Vehicles should be tolled is a corridor specific decision made cooperatively between CDOT/CTE and the TPR/MPO. • Right of way needs/costs should considered for all modes as part of the tolling analysis, regardless of whether or not alternative modes become part of the initial toll financing

- d. Implementation of “toll corridor related improvements” with toll revenue should be considered as part of any decision to reduce toll rates after bond and ongoing maintenance, operation and replacement obligations are satisfied.
- e. “Toll corridor related improvements” should be defined as improvements beyond those necessary to implement the basic scope for a toll facility, including, but not limited to:
- Alternative mode improvements such as public transit, bicycle, pedestrian
 - Roadway improvements not included in the basic scope
 - Open Space acquisition
 - Utilities.

Policy Issue 4: Funding of long term operations, maintenance and replacement costs

Toll Revenues should be used for the planning, design, financing, administration, construction, operations, maintenance, and reconstruction of the toll facilities.

Policy Issue 5: Leveraging tolling and federal/state dollars/Effect of tolling on project selection

- a. Tolling and other modal improvements should not be viewed as competing, but as key components of an integrated transportation system necessary to provide a full range of travel choices to the public.
- b. Shared funding sources to implement an integrated transportation system can result in additional funding for the entire transportation system.
- c. Use of toll credits as a soft match for federal funding for any transportation purpose allowed under Title 23 of the Code of Federal Regulations may leverage funds for the region.
- d. Toll revenue may be used as a local match to leverage additional federal transportation funding consistent with CTE/TC and MPO/TPR objectives.
- e. Federal, state and local funds may be used to leverage toll financing, consistent with any state and federal restrictions. The eligibility of a tolling facility for federal transportation funds will be determined with FTA or FHWA on a corridor or system basis based on the characteristics of the specific proposal and financial plan.
- f. Toll revenue may be used to repay a TPR/MPO that programs federal/state/local funds to finance a toll facility/system (subject to TABOR limitations), recognizing that priorities for the use of federal and state transportation funds are set through the cooperative state and regional transportation planning and programming process.
- g. Use of federal/state/local funds to leverage financing, and the use of toll revenue to repay such funds, must be documented in a memorandum of understanding (MOU) between the CTE, CDOT, and the regional planning commission/MPO. The MOU should include reasonable assurances that any repayment of funds by CTE to CDOT should be allocated by the TC to the region and/or program from which the funds originated.

- h. The highest priorities for toll revenues are capital construction, financing and related obligations, maintenance, operations, replacement and other named responsibilities to bond holders.
- i. The relationship between tolling and transit ridership, as well as a demographic analysis of toll facility users, will be evaluated as part of the request to include a toll system in the regional transportation plan, as well as in the NEPA analysis. This information will aid decision-makers in their actions regarding tolling and financing.
- j. CTE recognizes that TPR/MPOs have the responsibility to propose projects that match the long-range vision for transportation within the region. Conversely the TPR/MPO and sponsoring agency have the responsibility to solicit formal comments from CTE on proposed projects, including, but not limited to, parallel access controlled freeways, that may compete with current and proposed toll facilities, or otherwise affect the ability of CTE to meet its obligations. The CTE has the responsibility to respond to requests for comment from a TPR/MPO in a timely fashion.
- k. The CTE has the responsibility to provide guidance that the TPR/MPOs should use to determine what could constitute a competing project.

Policy Issue 6: Assumptions Used By Market in the Financial Feasibility/Market Analysis

- a. The TPR/MPOs recognize that CTE has the responsibility to propose tolling projects that are financially attractive to the markets and consistent with agreements and commitments made through the RTP, NEPA and financing agreements.
- b. If the financial markets do not support a proposal by CTE, the planning partners commit to re-evaluate the project scope and feasibility to determine if the project can be modified to be financially viable. If modified the necessary changes will be processed as appropriate through the RTP, NEPA document and financial agreements.

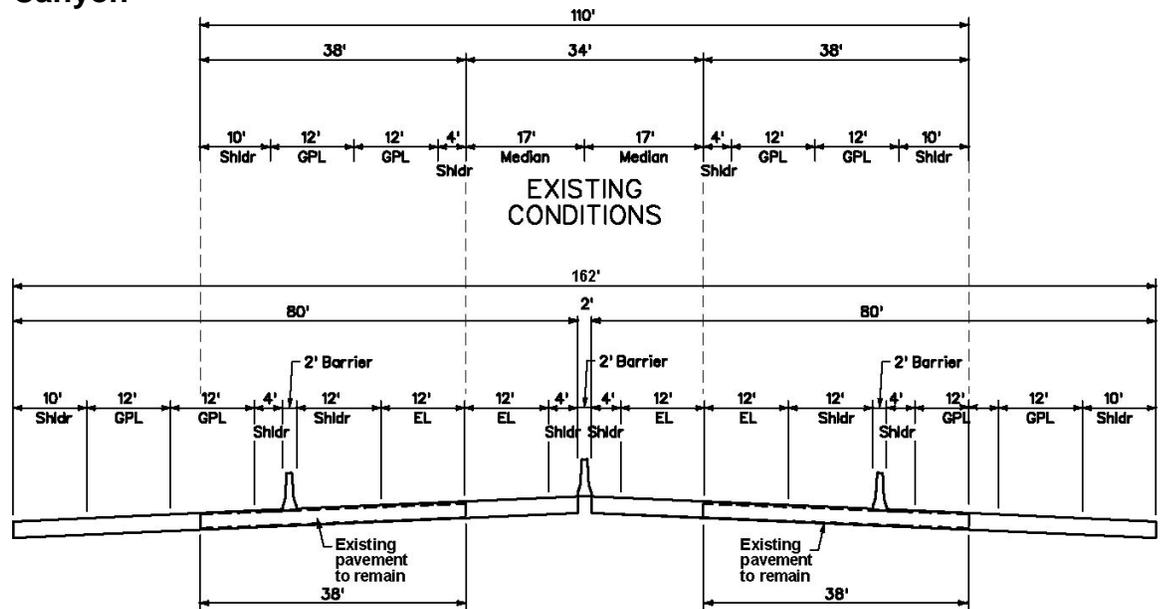
K. Conclusion - Next Steps

The Committee recommendations were provided to the TC and CTE Board in this report with the comments from the STAC, for their review and consideration, according to the following process.

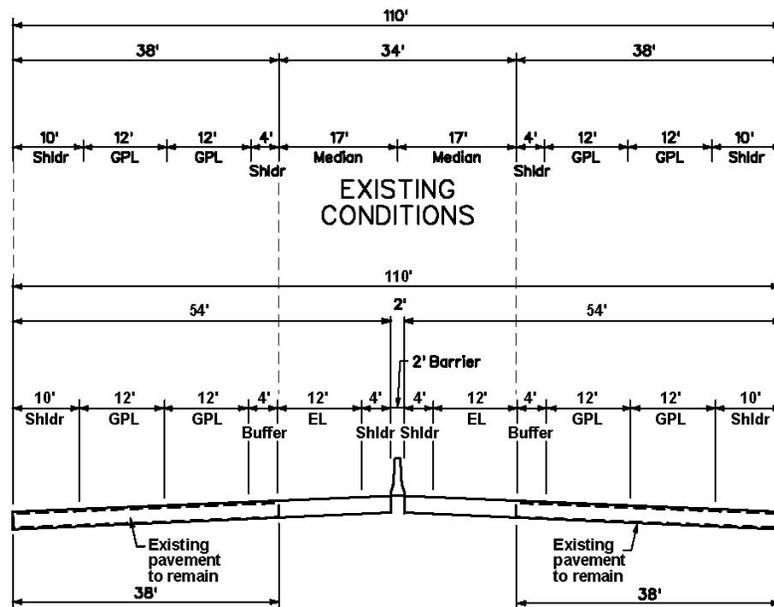
- Presentation to State Transportation Advisory Committee (STAC): This
- Committee report was provided to the STAC for review so that the TC and the CTE can consider the STAC comments when evaluating the recommendations of The Committee. The STAC, which consists of representatives from each of the fifteen regional transportation planning commissions, has the statutory responsibility to advise the CDOT on planning related issues.
- TC/CTE Workshops: The TC and the CTE considered these recommendations, STAC comments, and provided an opportunity for public comment in a workshop setting at their August and October 2005 meetings.
- MPO/TPR Discussion: Each affected MPO/TPR discussed with its board and/or advisory committees the recommendations included in this report through its individual decision making procedures.
- Action by TC/CTE: Based on public comment and comments from the
- MPO/TPR's, the TC/CTE will consider taking action on the applicable proposed policies and procedures recommended in this report.
- Action by MPO/TPR: Based on public comment and comments from the
- TC/CTE, the MPO/TPR Boards will consider taking action on the applicable proposed policies and procedures recommended in this report.

APPENDIX B

Figure 7: Existing Conditions of Platte Canyon to I-25 and Kipling to Platte Canyon



Platte Canyon to I-25



Kipling to Platte Canyon