

**Capital District Transportation Committee
Metropolitan Planning Organization (MPO)**



The Congestion Management Process: Regional Collaboration and Livability

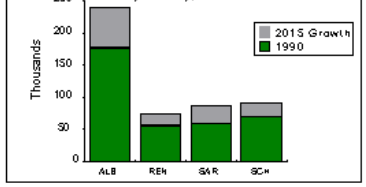
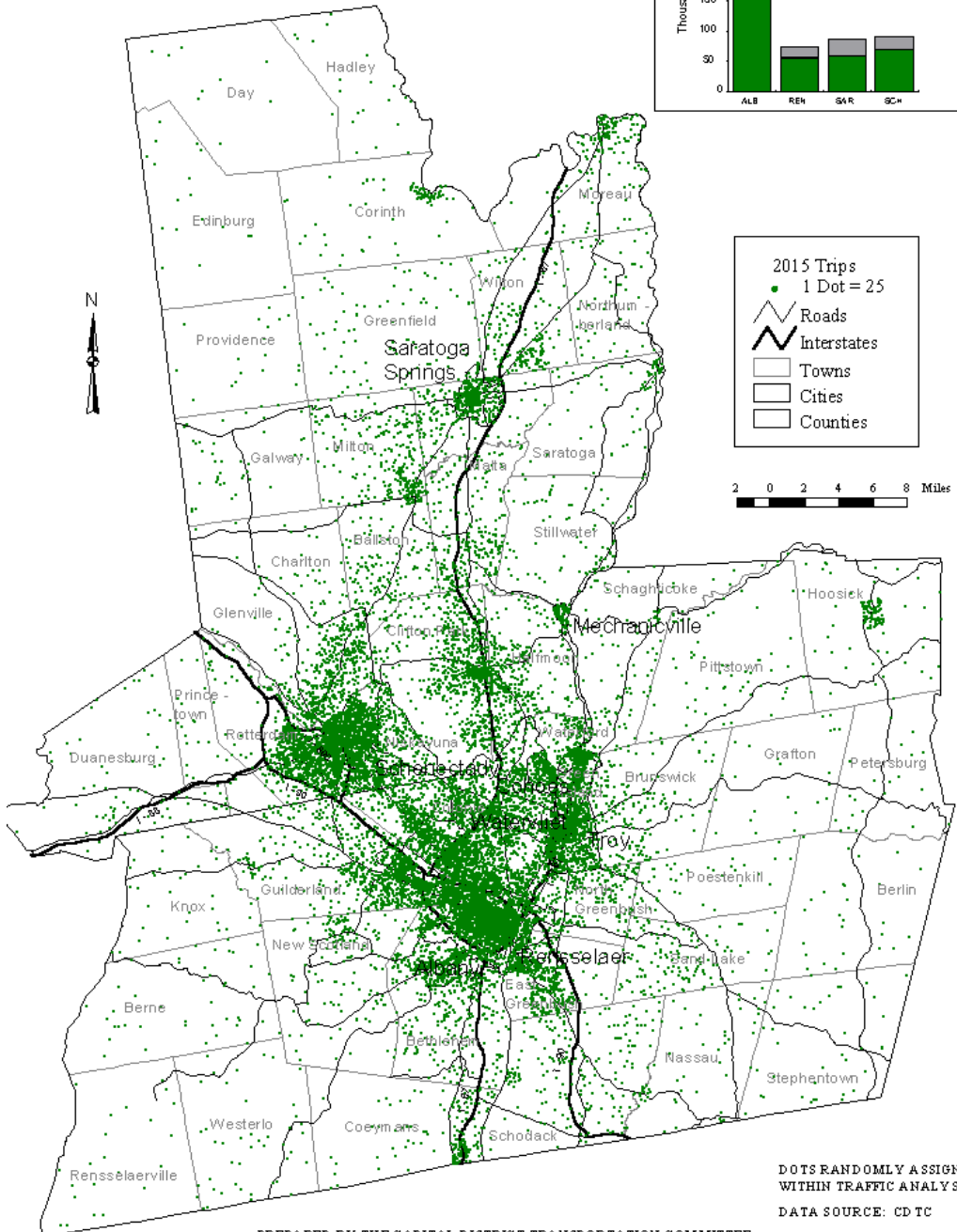
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VEHICLE TRIPS FOR THE CAPITAL DISTRICT

Capital District

Albany
Troy
Schenectady
Saratoga Springs

800,000 population



DOTS RANDOMLY ASSIGNED WITHIN TRAFFIC ANALYSIS ZONES
DATA SOURCE: CDTC

Capital District Transportation Committee

- Four counties
- Eight cities
- CDTA, NYSDOT,
CDRPC, NYSTA,
Port, Airport
- Rotating membership
for two towns at a time
(71 towns & villages)



- *The MPOs are well positioned to implement the livability agenda proposed by US DOT, US EPA and HUD*

- Emphasis on land use planning and multi-modal planning supports livability

- The Congestion Management Process (CMP) can support livability by emphasizing public participation



- An emphasis on operations in the CMP supports regional land use vision and livability

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New Visions for
a Quality Region



New Visions Regional Plan

The Plan calls for
strong livability
agenda—

- land use planning,
- urban reinvestment,
- transportation choices
- community values



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New Visions Regional Plan

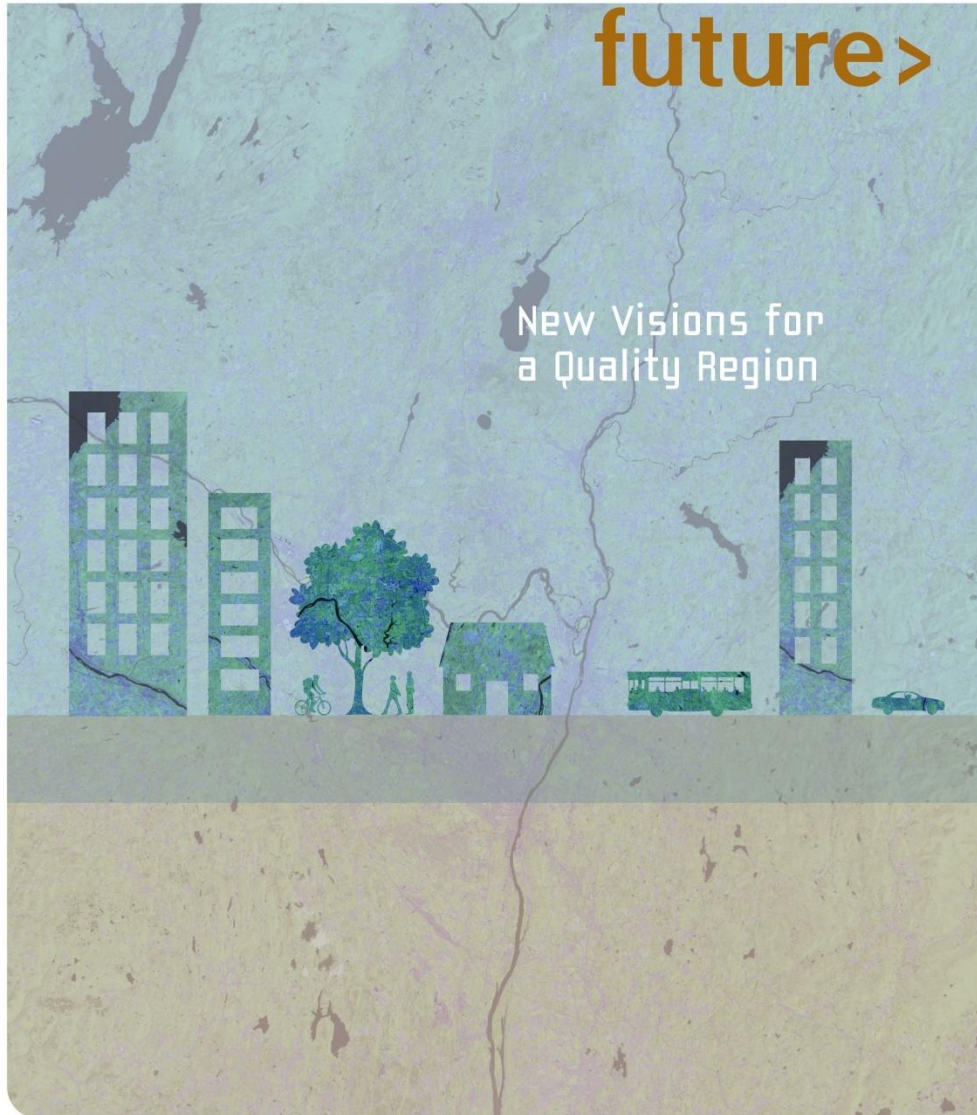
The Congestion
Management
Process is
strongly
integrated with
the Plan



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New Visions Regional Plan

- Wide public support for Operations & Management components of the Plan



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New Visions Regional Plan

- **New Visions public involvement process set the stage for the MPO Operations and Management role**
- **Our strong point is being seen as a “turf neutral” facilitator and consensus builder**



Expressway Management Task Force and “Working Group B”

We were able to convene:

- NYS Department of Transportation
- NYS Thruway Authority
- Capital District Transportation Authority
- Cities, towns, counties
- State Police
- City and town police departments
- Other emergency service providers



Performance Measures

The New Visions performance measures were all included in the CMP:

- Access (Transit, Bike, Pedestrian)
- Accessibility
- Congestion severity
- Flexibility
- Safety
- Economic Cost



Performance Measures

- Arterial Conflict
 - Residential Driveway conflict
 - Commercial Driveway conflict
- Community Quality of Life
- Economic Development





Transit, walking, quality of life, access management—important components of congestion management.

Performance Measures

The CMP uses the congestion performance measure: **Excess Person Hours of Delay** -

The time spent above and beyond what it would take to travel at LOS “D”

- **Strong distinction**— just because level of service “E” or “F” occurs does not indicate a critical congestion problem
- Corridors with the most hours of excess delay are called **critical congestion corridors**



Performance Measures

For example, an intersection operating at level of service “F” in the PM peak hour may have an aggregate total of, say, 2 hours of excess delay;

This would not be considered a critical congestion problem



Performance Measures

Not “minimize congestion at any cost, consider other impacts if possible”

Trade offs needed among all performance measures. -- *This is a choice to be made with public input, not a mechanical determinism.*



Performance Measures

- Trade-offs with design standards, design year level of service, transit/pedestrian/bike needs, and community context are not easy, but must be considered
- NYSDOT is recognizing and pursuing this issue--"Context Sensitive Design/Solutions" and "GreenLites"
- Trade-offs based on the objectives of the regional transportation plan



Performance Measures

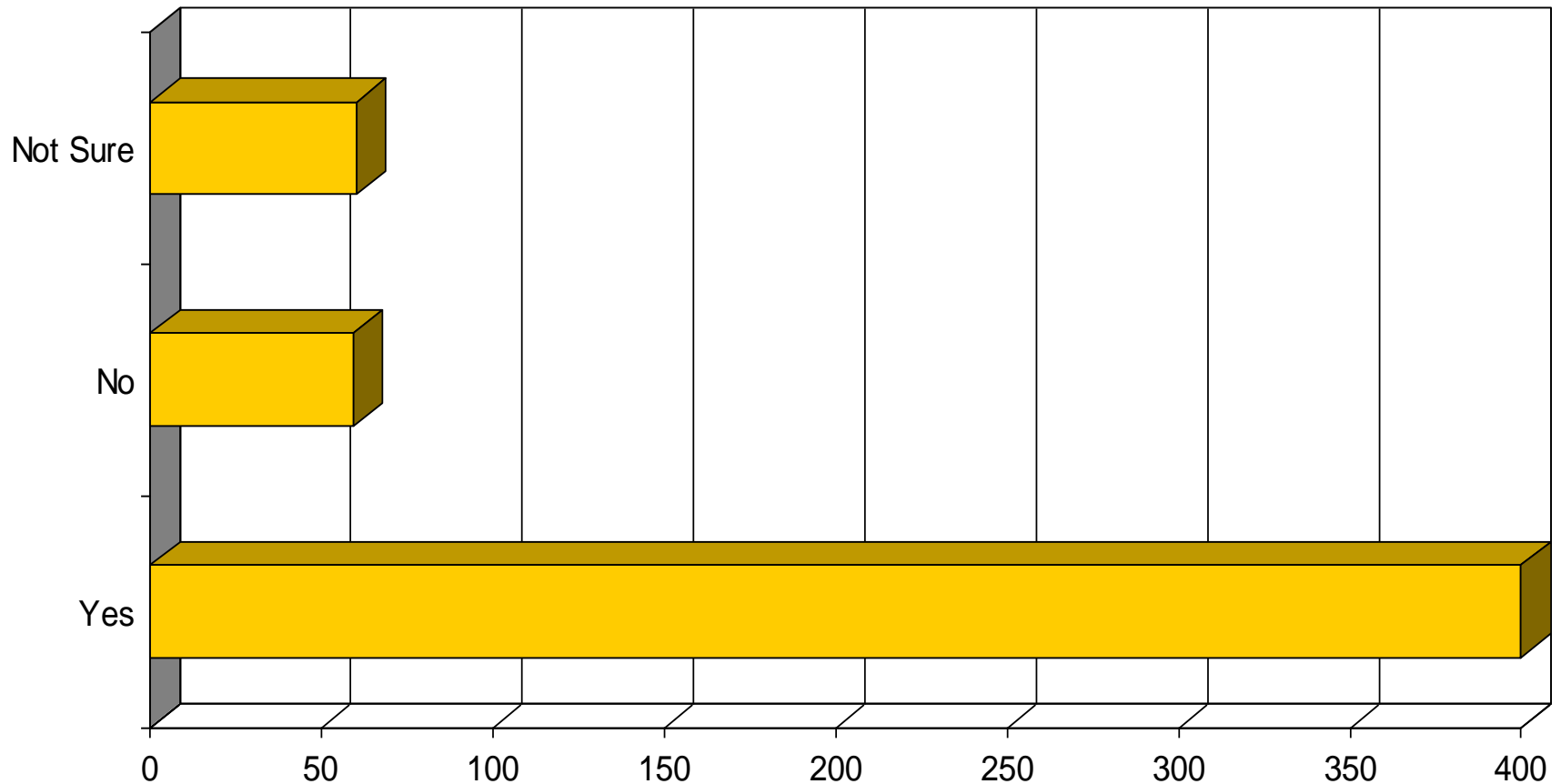
Get public input into the trade-offs between performance measures.

In many cases, the trade off between, say, traffic congestion and community quality of life is an easier choice than we think for the public;

while planners and engineers can get stuck thinking there is a mandate to address traffic level of service as the first priority



Would you be willing to accept traffic levels and congestion roughly as they are on Route 5 now if we could improve transit, walking, biking, landscaping, attractiveness and safety?



The public process in the New Visions Plan has led us to the conclusion that the public experiences recurring delay as tolerable;



while unpredictable, non-recurring delay is not tolerable.

Performance Measures

If you know your commute home every day is 10 minutes longer than you would expect at 10 PM, you can plan around this.

But if your commute home one day is an hour and fifteen minutes longer, because of an incident, this is a much more significant hardship.



Performance Measures

Analysis using the travel demand model indicated that widening the Northway would result in filling up with traffic on the day of opening; without reducing incident delay.

However, the planning and design process still tends to focus exclusively on recurring delay.



Performance Measures

- CDTTC used a data base from NYSDOT, called “MIST”, which measures expressway speeds by lane every 15 minutes, 24/7, to develop performance measures.
- Used MIST to estimate vehicle hours of recurring excess delay vs. non-recurring; by facility



Planning Time Index

- A measure of predictability and reliability (developed by Texas Transportation Institute)
- Ratio of driving time on a ‘worse than average delay day’ (95th percentile) to a ‘free flow day’
 - $PTI > 1.0$ ~ trip would take longer time
 - $PTI = 1.0$ ~ trip would take no extra time
 - $PTI < 1.0$ ~ speed would be > 55 mph even on the “worst” day



Planning Time Index

- **Example:**

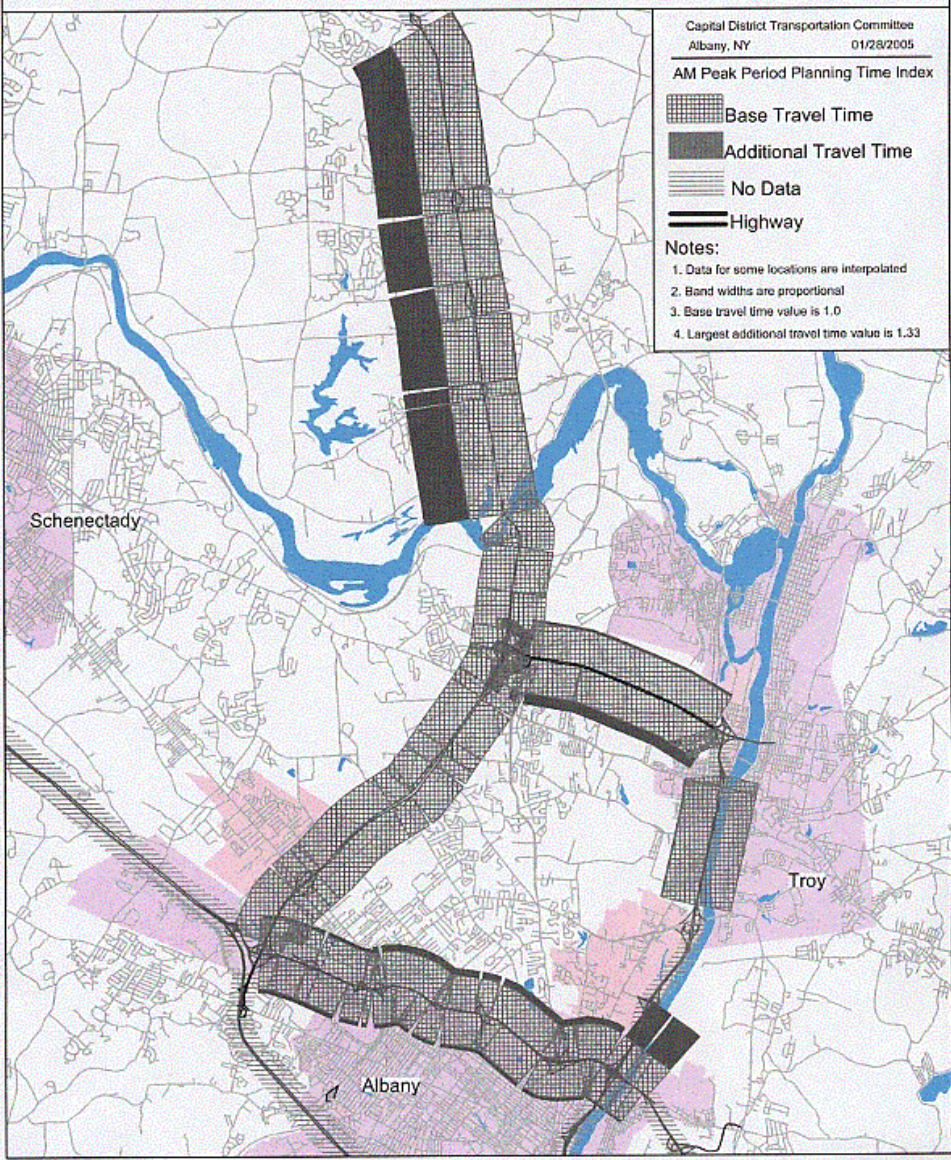
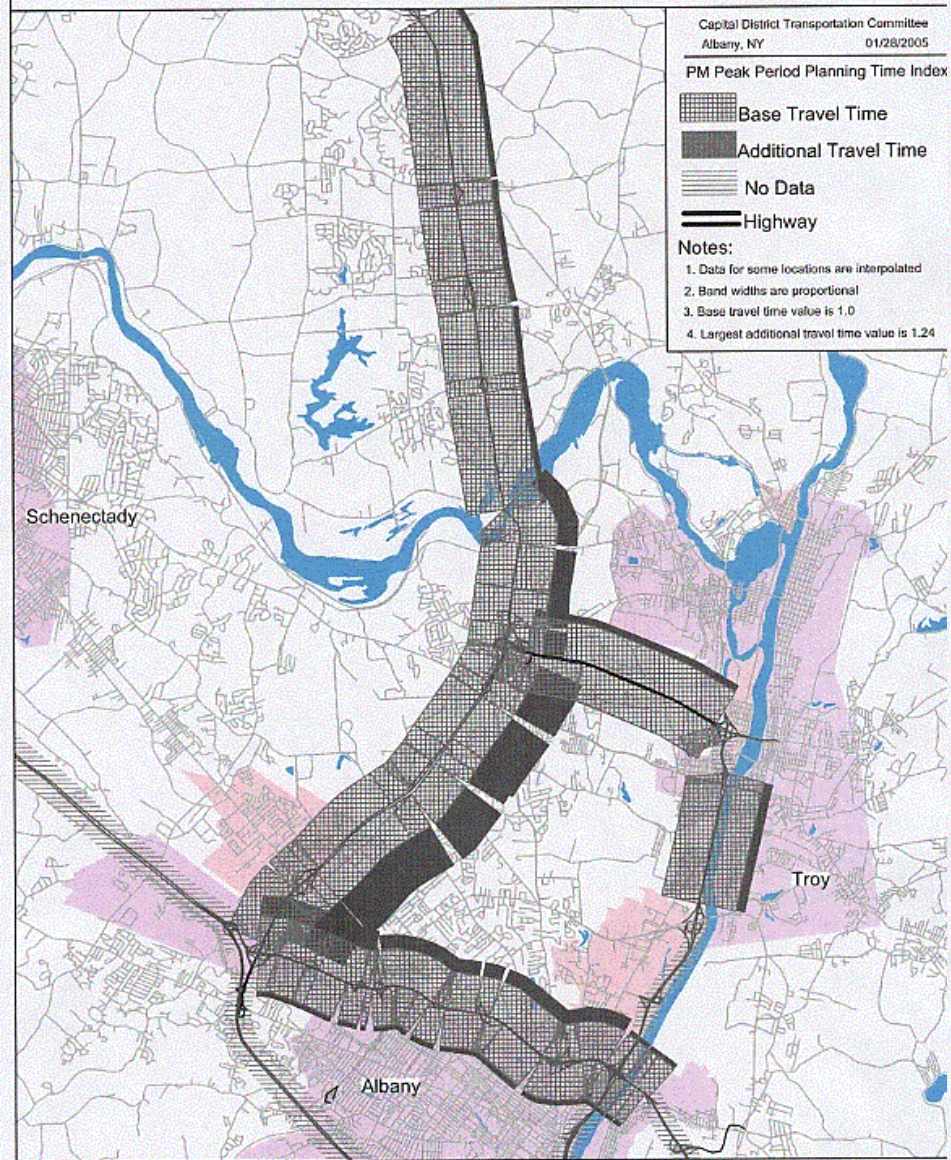
For a 30 minute trip, if the planning time index is 1.5, then on a “worst” day, the trip would take 45 minutes;

- In other words, you would have to leave 15 minutes earlier than normal to have a 95% confidence of being on time.



Map 9: PM Peak Period Planning Time Index in 2003

Map 10: AM Peak Period Planning Time Index in 2003



I-87: PM peak NB: 1.66
 I-90: PM peak WB: 1.37
 I-787: PM peak NB: 1.26
 Alt Rt-7: PM peak WB: 1.20

AM peak SB: 1.46
 AM peak WB: 1.55
 AM peak EB: 1.34

Congestion Management Principles

Capacity projects must be in critical congestion corridors

- Critical corridors based on severity of existing congestion (not just the presence of congestion).
- Capacity projects are not warranted merely by potential future congestion (forecasts)



Congestion Management Principles

Infrastructure projects should not increase capacity unless risk assessment indicates

- Avoid the trap of increasing capacity just because there is a bridge replacement.
- Other things being equal, if congestion is forecast only for 20 or 30 year design horizon, it should be dealt with then, not now. Otherwise we spend scarce capacity money on lower priority needs.



Congestion Management Principles

- **Management of demand is preferable to accommodation of single-occupant vehicle demand growth**
- **Incident management is essential to effective congestion management.**



Congestion Management Principles

- **Any major highway expansion considered by CDTC will include a management approach**
- **Trade offs between performance measures are necessary—congestion is only one of many**



Institutional Barrier	Congestion Management Process
Transportation engineering traditionally has relied chiefly on technical skill sets.	Transportation decisions must be informed by meaningful dialogue with public, and with stakeholders.
Participating agencies protect their own authority and are reluctant to share decisions within the planning forum.	Process must build technical and political credibility and acknowledge others' authority.

Institutional Barrier	Congestion Management Process
Performance measures based only on quantifiable measures of “recurring” traffic flow	Develop performance measures with input from the public, such as reliability, bike/ped, transit and quality of life measures– livability
Agencies are focused on capital projects; funding and staffing are set up for capital projects	Improving operations has large benefits, is economically feasible, represents strategic investment; set priorities for operations

Institutional Barrier	Congestion Management Process
<p>The project design process tends to ignore planning as well as operations</p>	<ul style="list-style-type: none">•give equal consideration to multi modal performance measures•Give equal consideration to community quality of life, livability•Alternatives in design should strongly consider operations alternatives

Institutional Barrier	Congestion Management Process
The design process requires 85 th percentile design speed	The CMP supports complete streets, a livability feature. Traffic calming and complete streets are often precluded by using the 85th percentile speed
In design, the scope of the project expands to meet 20 year (or more) level of service criteria	Capacity expansion will likely not address future reliability; Improving operations may be a more strategic investment

Institutional Barrier	Congestion Management Process
<p>Transit operations options such as Transit Signal Priority (TSP) are given lower priority by focusing on auto level of service</p>	<p>Regional planning context should set priorities for transit investment</p>
<p>Operational solutions such as signal coordination lack funding and staff</p>	<p>Find ways to maintain valuable systems</p>

Congestion Management and Livability

- The CDTC New Visions Plan and CMP encourages biking, walking, transit, and complete streets, important components of livability.
- CMP performance measures include community quality of life- a qualitative measure based on public input– supportive of livability



Congestion Management and Livability

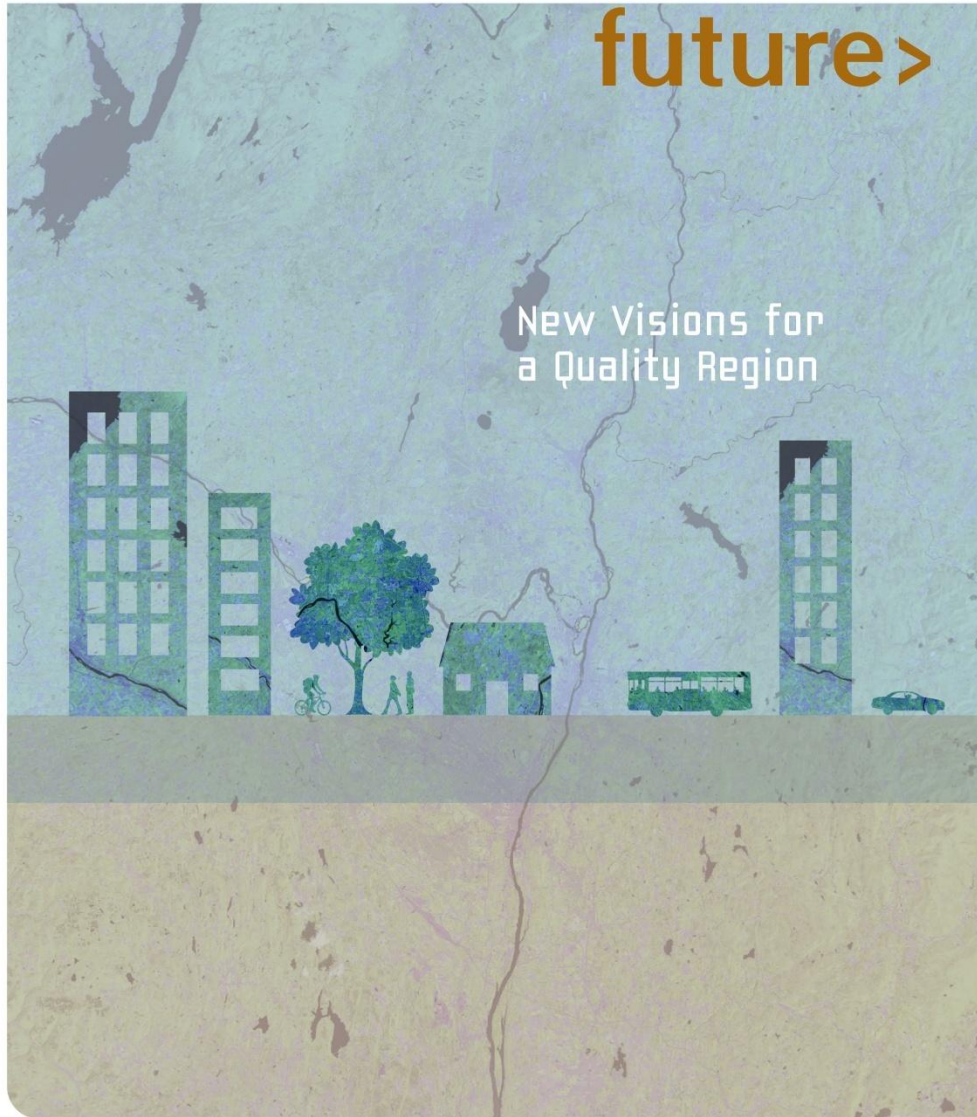
- Congestion must be considered in context
- Land use considerations: smart growth, urban investment, transit oriented development, affect the CMP
- A management approach to congestion, emphasizing operations, supports livability



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Thank You

