Item #7

Briefing on Development of the Congestion Management Process (CMP) for the 2007 CLRP

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COG/TPB Staff

TPB Technical Committee
February 2, 2007

1

Introduction

- A Congestion Management Process (CMP) is a requirement in metropolitan transportation planning
  - SAFETEA-LU
  - March 2006 Federal certification of the TPB process
- Metropolitan long-range plans developed after July 1, 2007 must have a CMP
- Need to develop the CMP in concert with CLRP update anticipated for Fall 2007
  - Will build from previous years' Congestion Management System (CMS) activities

2

Basic CMP Concept and Requirements

- Systematic process for managing traffic congestion and providing information on transportation system performance:
  - Data collection/performance monitoring
  - Range of strategies for addressing congestion
  - Performance measures or criteria for identifying when action is needed
  - Prioritization system for the most effective strategies
- SOV-capacity-increasing projects must be a part of a CMP
- SAFETEA-LU emphasizes managing the existing infrastructure, and ensuring full integration into the planning process

3

Previous and Current CMS/CMP Activities

- CMS one of six management systems originally in ISTEA, and the only one still in effect
- Mid-1990s CMS Task Force shaped the region's CMS
- TPB process has been addressing CMS through
  - Data collection and analysis
  - Implementing agencies submit CMS information for non-CMS-exempt CLRP & TIP projects
  - Consideration of MOITS strategies
- Summarized and described in a section of the CLRP narrative
  - No separate CMS document since FY1996 (at the direction of the Technical Committee)

4

Potential Enhanced CMP Activities

- Phase I: now through Fall 2007 CLRP
  - Use of existing data sources and the performance measures used by those sources (e.g., Skycomp, arterial travel monitoring)
  - Support within existing UPWP CLRP & MOITS tasks
- Phase II: throughout FY2008
  - New, separate CMP UPWP task with dedicated funding
  - Consideration of enhancements to mapping, data, performance measurement, and Web features

5

Oversight and Advisory Committees

- Technical Committee will be the oversight committee for the CMP
  - In the best position to address the breadth of topics necessary
- Can be advised by other committees
  - MOITS: non-recurring congestion
  - Travel Forecasting: recurring congestion and forecasting of future conditions
  - Commuter Connections and Travel Management: alternative strategies analysis
  - Special workshops an option

6

Preliminary Schedule

• Feb 2 Tech Committee Meeting	This introductory memo & discussion
• Feb 2 – Apr 6	Phase I information compilation
• Apr 6 Tech Committee Meeting	Outline & Phase I activities update
• Jun 1 Tech Committee Meeting	Update; first draft document*
• Sep 7 Tech Committee Meeting	Update; second draft document
• Oct 5 Tech Committee Meeting (with CLRP)	Final draft document for approval
• November and onward	Phase II activities

* The publication format of the CMP (separate document or combined) is to be determined.

Baltimore Metropolitan Council

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Translate this page

Data Collection and Monitoring

What Do the Numbers Say? Collecting Data and Monitoring the System

A key piece of the Congestion Management System is the establishment of a program for data collection and system monitoring.

Baltimore Metropolitan Council recognizes the importance of collecting data. As a result, BMC works in partnership and provides financial support to local jurisdictions and the State Highway Administration to collect traffic counts at over 500 locations.

What We Measure

Roadway

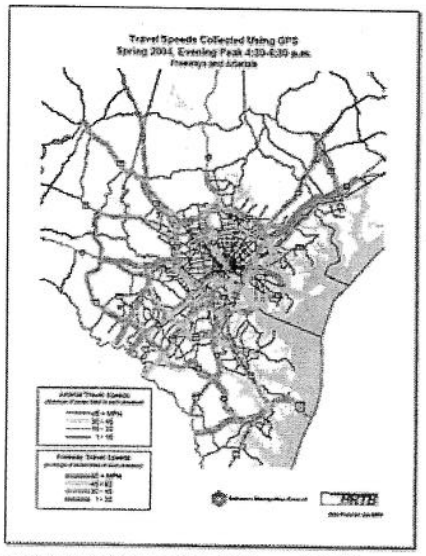
- Vehicle volumes (direction, time of day, peak hour, average daily traffic)
- Volume/Capacity ratios by direction and time of day
- Intersection Level of Service – average queue length, delay
- Miles operating at LOS E or F in peak period
- Duration of congestion

Transit

- Average speeds or travel time
- Ratio of bus to auto speed (for bus systems)
- Average peak period vehicle load factors (passenger miles per seat miles; passengers per vehicle)

How We Measure Congestion

A number of sources are used to determine congested corridors in the Baltimore region. In addition to looking at currently congested roadways, BMC also looks at potential congestion on new roads.



Using GPS to Monitor Traffic - Since 1998, BMC has used Global Positioning System units to collect travel time and travel speeds on 30 of the heaviest traveled roadways. How congested is your community? Learn more...

Aerial Surveys of Congestion- Every three years BMC staff uses extensive aerial surveys to monitor traffic quality on the freeway system in the metro area. Explore the results of the 2005 survey...

For more information:
Bala Akundi, bakundi@baltometro.org or 410-732-0500 x1019.

Photo: *Evening Rush hour congestion (pdf: click photo to enlarge)*

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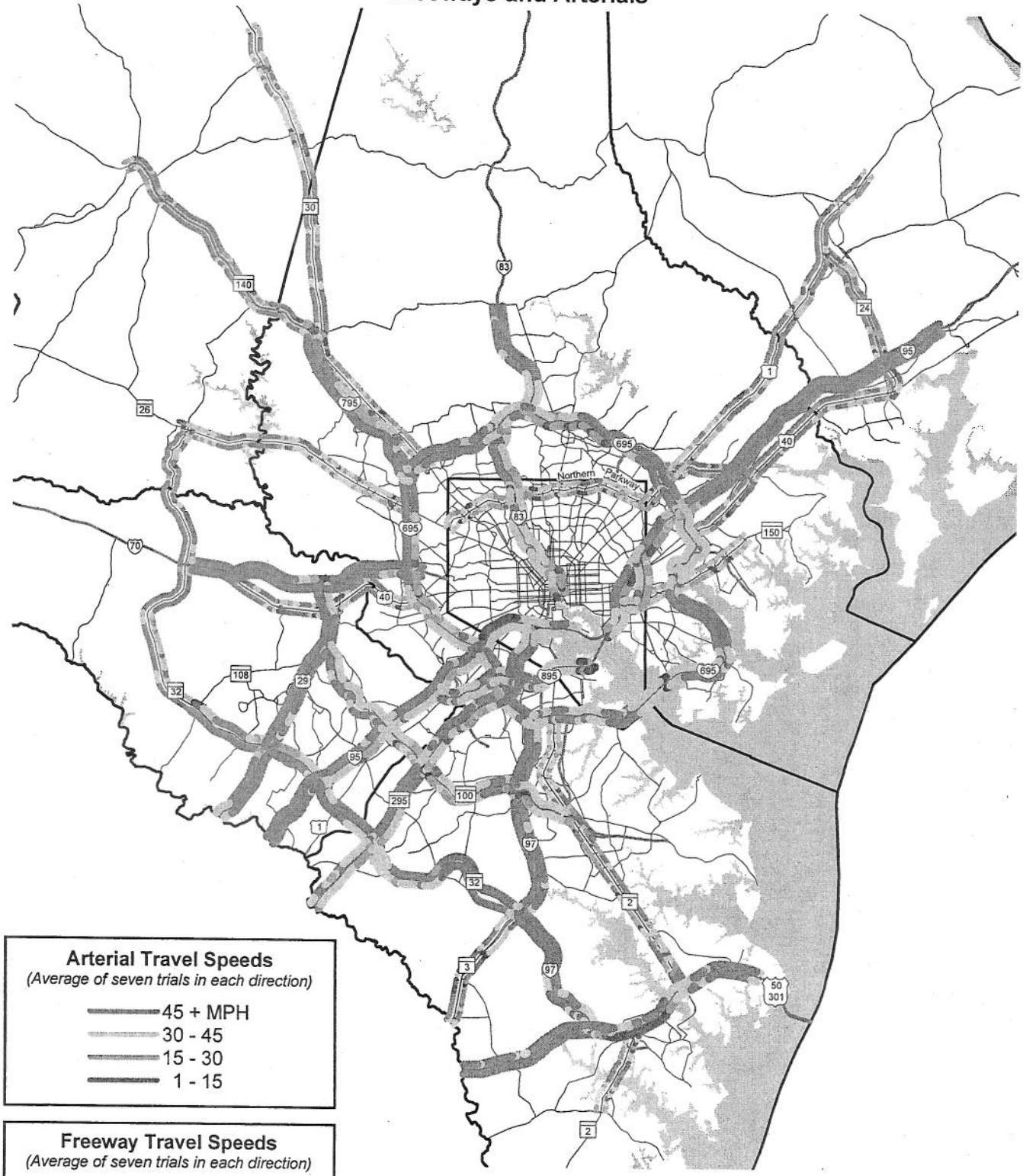
Last Updated (Monday, 19 June 2006)

 Designed by Mango Jar Media

Travel Speeds Collected Using GPS
Spring 2004, Evening Peak 4:30-6:30 p.m.
Freeways and Arterials



Arterial Travel Speeds
(Average of seven trials in each direction)

- 45 + MPH
- 30 - 45
- 15 - 30
- 1 - 15

Freeway Travel Speeds
(Average of seven trials in each direction)

- 60 + MPH
- 45 - 60
- 30 - 45
- 1 - 30

Baltimore Metropolitan Council

BRTB

Date Prepared: July 2004

Figure 1.1. Boston Region MPO: Municipalities and Regional Transportation Corridors

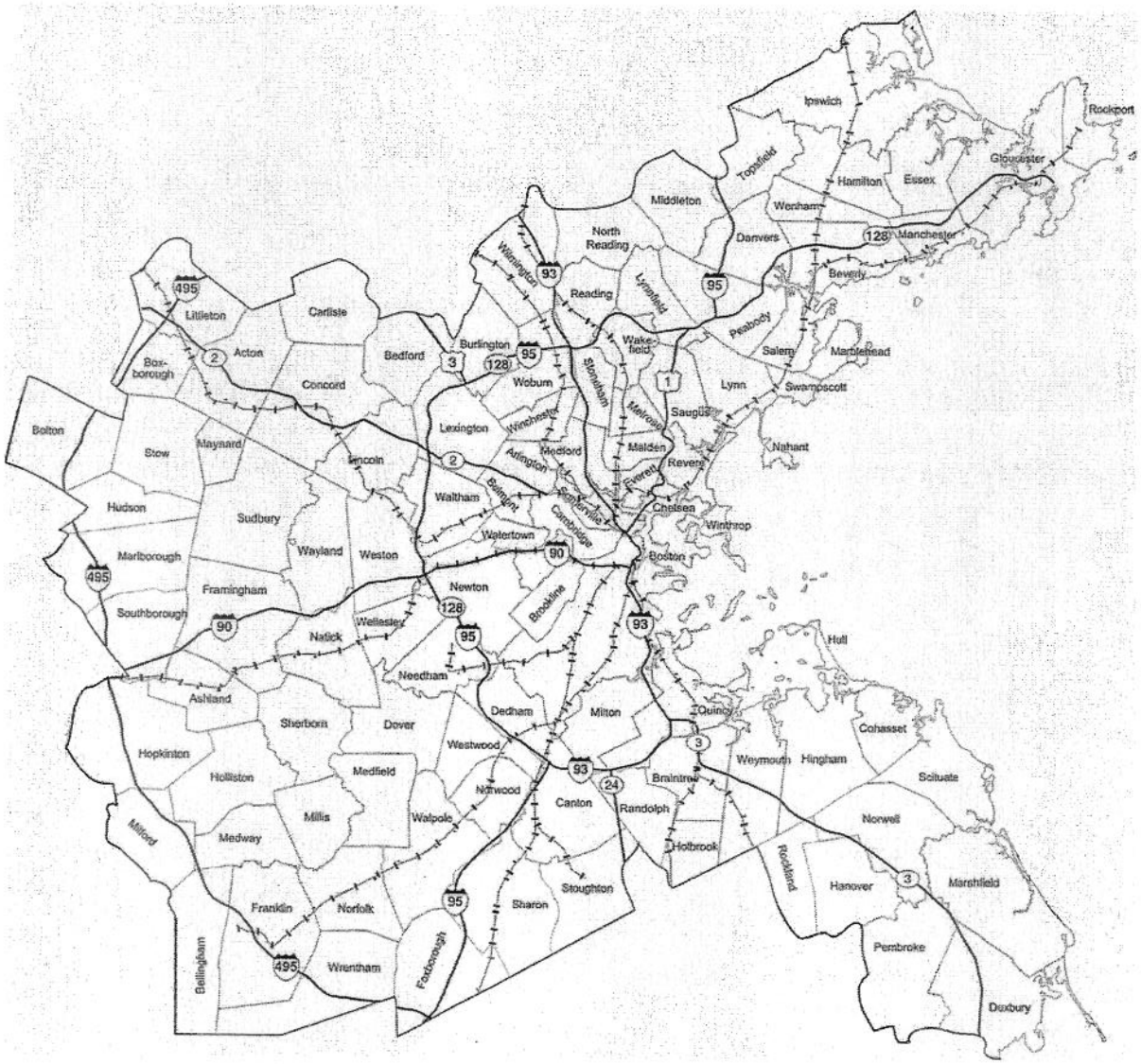
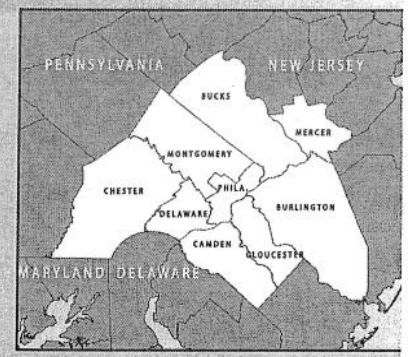


Table 3-1-05A: Bronx County-Wide 2005 Congestion Performance Measures (AM Peak Period)								
Facility Class	Avg. V/C	Avg. Speed (MPH)	VHD	PHD	Percent Lane Miles at V/C			TTI
					<0.8	0.8-1.0	>1.0	
Freeway	0.54	39.65	4,994	7,391.12	79.9%	15.3%	4.7%	1.26
Arterials	0.25	19.14	3,711	5,492.28	97.4%	1.4%	1.3%	1.18
Local Streets	0.18	16.98	543	803.64	97.5%	1.3%	1.2%	1.15
County-Wide	0.32	28.45	9,248	13,687.04	92.6%	5.2%	2.2%	1.21

Table 3-1-05P: Bronx County-Wide 2005 Congestion Performance Measures (PM Peak Period)								
Facility Class	Avg. V/C	Avg. Speed (MPH)	VHD	PHD	Percent Lane Miles at V/C			TTI
					<0.8	0.8-1.0	>1.0	
Freeways	0.69	32.20	10,252	15,172.96	62.2%	23.5%	14.3%	1.55
Arterials	0.36	17.66	6,765	10,012.20	93.7%	3.5%	3.0%	1.29
Local Streets	0.24	12.92	1,989	2,943.72	91.5%	3.1%	5.3%	1.51
County-Wide	0.43	23.70	19,006	28,128.88	84.7%	8.9%	6.4%	1.41

Table 3-1-05D: Bronx County-Wide 2005 Congestion Performance Measures (Daily Period)						
Facility Class	Avg. V/C	Avg. Speed (MPH)	VHD	PHD	Total Daily VMT	TTI
Freeways	0.45	39.74	24,742	36,618.16	4,811,000	1.26
Arterials	0.22	19.71	16,866	24,961.68	2,506,000	1.15
Local Streets	0.14	15.30	4,883	7,226.84	Data Not Available	1.27
County-Wide	0.27	28.28	46,491	68,806.68	7,317,000	1.21

DVRPC CONGESTED AND EMERGING CORRIDORS



EMERGING / REGIONAL CORRIDORS

SUBCORRIDOR TYPES

INTERSTATES

FREEWAY; FREEWAY FUNCTION; INDUSTRIAL

DEVELOPED SUBCORRIDORS

GRID

SUBURBAN NETWORK

DEVELOPED ARTERIAL; MAIN STREET

DEVELOPING SUBCORRIDORS

SUBURBAN SECONDARY

DEVELOPING ARTERIAL; LIGHTLY DEVELOPED

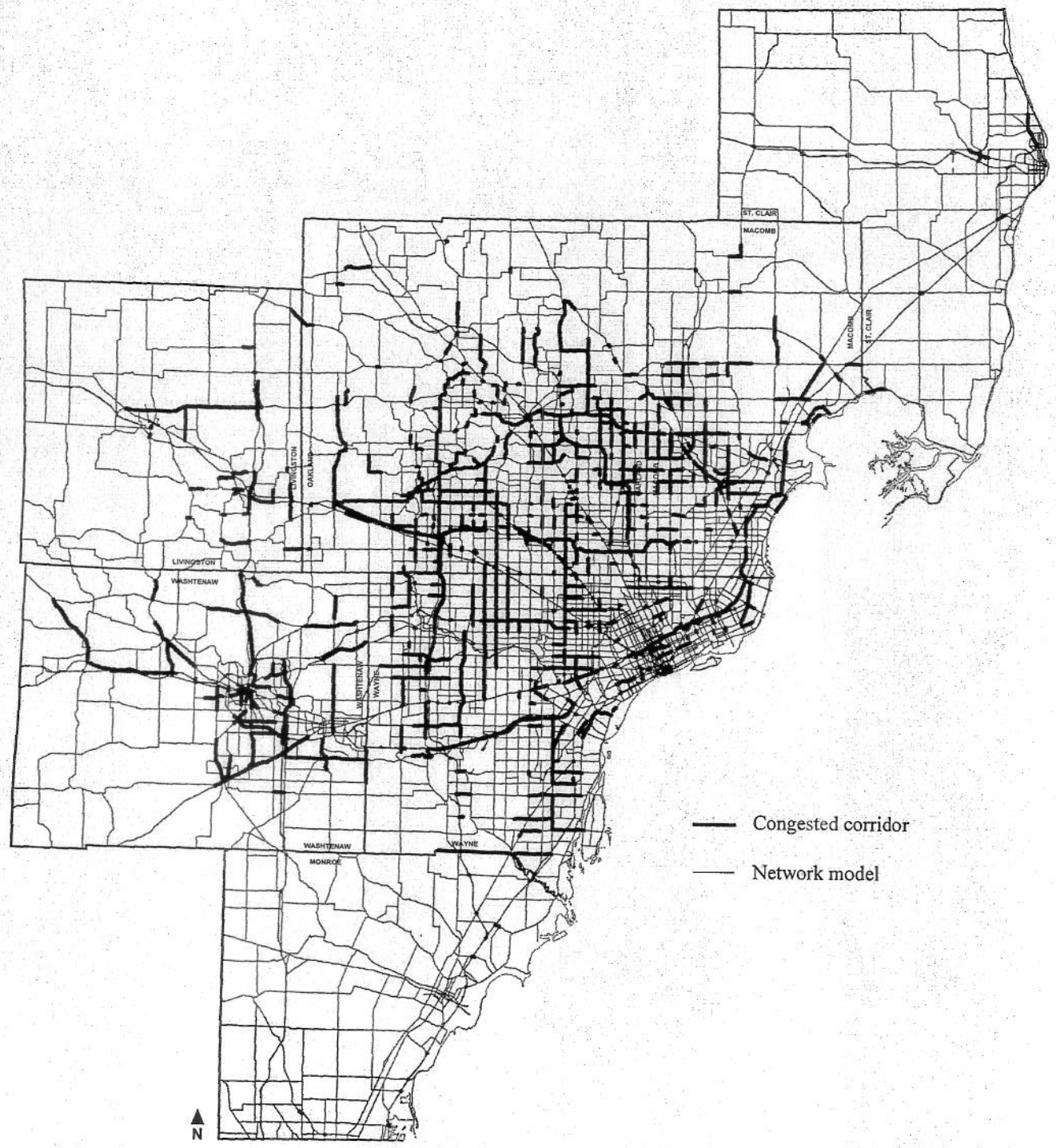
N

0 4 8 12
Miles

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Figure 2

2005 Congested Corridors
Southeast Michigan



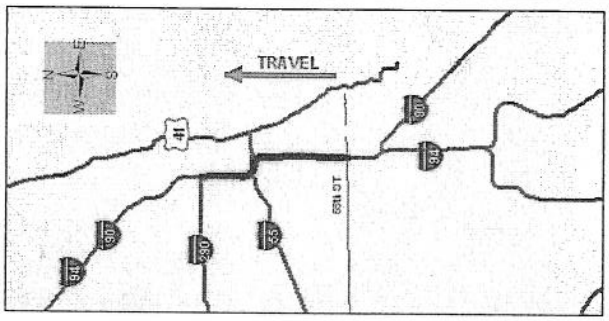
Source: SEMCOG

#1a. I-90/94 Dan Ryan Express Lanes

55th Street to Circle Interchange

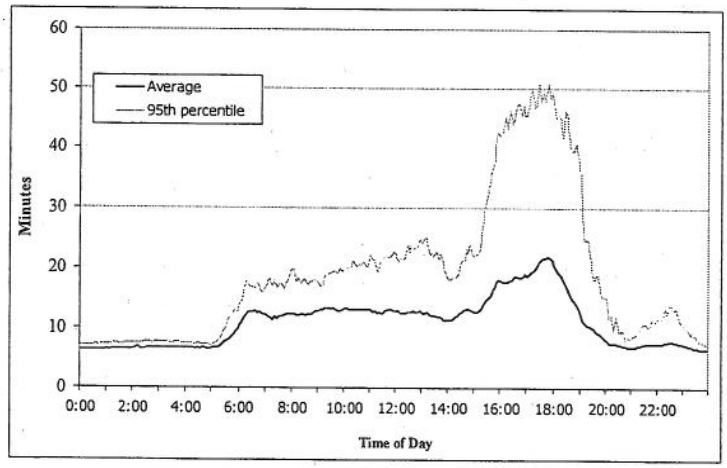
6.0 miles

Northbound traffic



Travel Time

Northbound travel times on this portion of the Dan Ryan express lanes show three distinct time frames during the day. Travel times remained around 7 minutes during the late night/early morning hours. From the morning peak period until the evening peak, travel times still remaindered fairly constant at around 12 minutes. Peaking of the travel times finally occurred during the evening peak commute period.



The 95th percentile time showed little difference from the average travel time during the early morning hours. This time increased fairly steadily during the day and reached its peak around 5:30 PM. At its peak, the 95th percentile time was over 50 minutes: more than twice the average travel time.

Travel Time Reliability

Travel times were most unreliable during the evening peak period when variability was in the 80-90% range. This means the average variability in travel times during this time was nearly equal to the average travel time itself. There were also relatively high amounts of variability during the morning peak and the afternoon period.