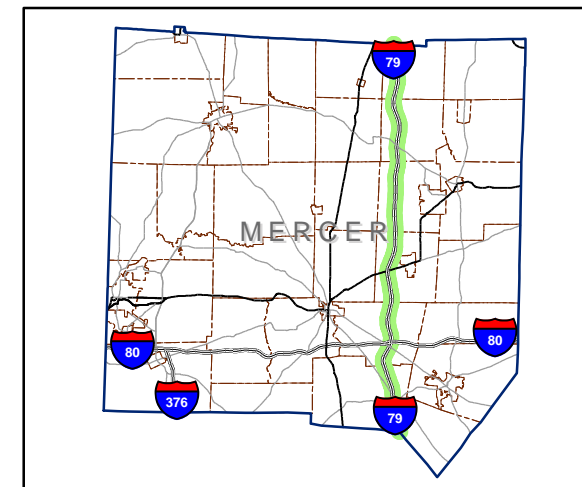
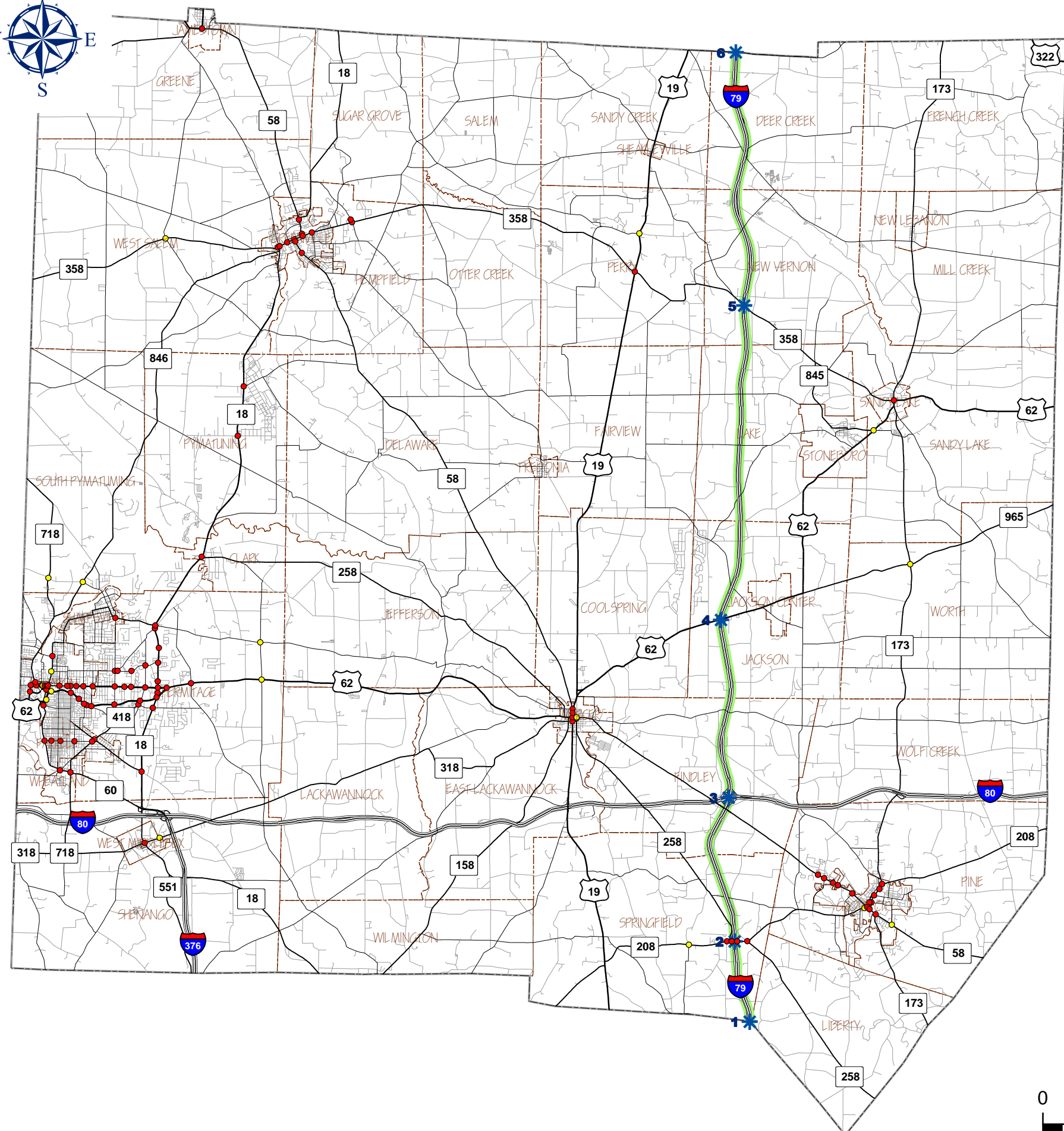


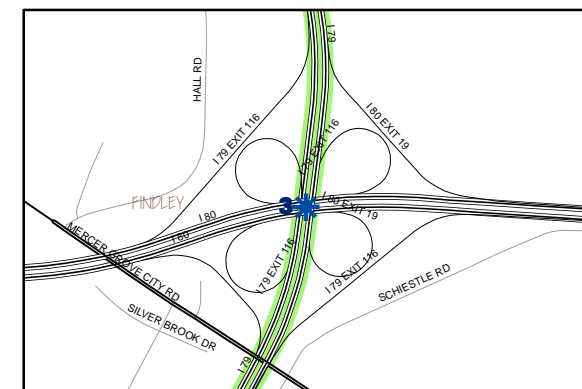
PERFORMANCE MONITORING DETAILS

CMP Corridor #102

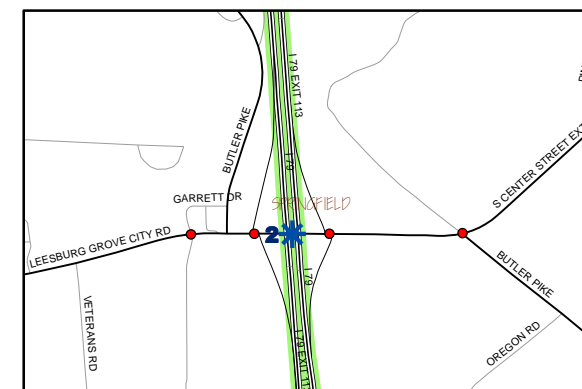
- Corridor / Node Map
- Field Reconnaissance Worksheet
- Travel Time Summary (Corridor Overview)
- Travel Time Summary (Average Data / Direction 1 at Peak)
- Travel Time Summary (Average Data / Direction 2 at Peak)



Detail 1 - County Location (N.T.S.)



Detail 2 - I-80 Interchange (N.T.S.)



Detail 3 - PA 208 Interchange

LEGEND

- Interstate
- US Route
- PA Route
- Other State Route
- Local Road
- Municipal Boundary
- Traffic Signal
- Traffic Beacon
- CMP Monitoring Corridor

Corridor Nodes, I-79 @:

- 6, Crawford County Line
- 5, Exit 130, PA 358
- 4, Exit 121, US 62
- 3, Exit 116, I-80
- 2, Exit 113, PA 208
- 1, Lawrence County Line



Mercer County CMP

I-79 (County-Wide)
CMP Corridor / Node Map

Mercer County Regional Planning Commission *Planning for Livable Communities*

MCRPC

Corridor #102
Revised 04/27/10

**SECTION 1: ROUTE IDENTIFICATION**

A	CMP Identification #:	#102
B	Route (General Area):	I-79 (Lawrence County to Crawford County)
C	Specific Limit 1 (South / West):	Lawrence County Line
D	Specific Limit 2 (North / East):	Crawford County Line
E	Affected Municipalities:	Springfield, Findley, Jackson, Lake, New Vernon, Deer Creek
F	Total Corridor Length (Miles):	26.1
G	Federal Functional Class:	Interstate Highway
H	PennDOT Traffic Pattern Group:	TPG 2 (Rural - Interstate)
I	Typical # of Travel Lanes:	2-Lanes each direction
J	Typical Posted Speed Limit(s):	65 mph thru all of Mercer County

SECTION 2: SPECIAL USES OR CONSIDERATIONS

A	Transit	<input type="checkbox"/>	
B	Pedestrian / Bicycle	<input type="checkbox"/>	
C	Heavy Freight (Truck / Rail)	<input checked="" type="checkbox"/>	15-19% interstate truck traffic per PennDOT iTMS data
D	Emergency Detour	<input checked="" type="checkbox"/>	PennDOT color-coded I-79 detours impact US 19, PA 208, I-80, PA 173, US 62, PA 965, PA 358
E	Tourism / Recreation / Special Events	<input checked="" type="checkbox"/>	Grove City / Prime Outlets and seasonal shopping peaks (Exit 113 / PA 208)
F	Community Concerns	<input type="checkbox"/>	
G	Growth Corridor	<input type="checkbox"/>	
H	Other: ITS	<input checked="" type="checkbox"/>	Several future I-79 ITS improvements referenced in the 2007 Northwest Regional Operations Plan
I	Other:	<input type="checkbox"/>	



SECTION 3: ISSUES OR CONCERNS (RECURRING CONGESTION)

A	Roadway Capacity	<input type="checkbox"/>	
B	Roadway Bottlenecks	<input type="checkbox"/>	
C	Signalized Intersection Operations	<input type="checkbox"/>	
D	Unsignalized Intersection Operations	<input type="checkbox"/>	
E	Access or Access Control	<input type="checkbox"/>	
F	Existing or Future Development	<input type="checkbox"/>	
G	Other:	<input type="checkbox"/>	
H	Other:	<input type="checkbox"/>	

SECTION 4: ISSUES OR CONCERNS (NON-RECURRING CONGESTION)

A	Crashes and Related Delays	<input type="checkbox"/>	
B	Incident Management	<input checked="" type="checkbox"/>	PennDOT color-coded I-79 detours impact US 19, PA 208, I-80, PA 173, US 62, PA 965, PA 358
C	Special Events	<input checked="" type="checkbox"/>	Grove City / Prime Outlets and seasonal shopping peaks (Exit 113 / PA 208)
D	Construction Activities	<input checked="" type="checkbox"/>	Interstate maintenance activities
E	Weather or Environmental Factors	<input type="checkbox"/>	
F	Other:	<input type="checkbox"/>	
G	Other:	<input type="checkbox"/>	

SECTION 5: ISSUES OR CONCERNS (SAFETY-RELATED OR ISOLATED "HOT-SPOTS")

A	Other:	<input type="checkbox"/>	
B	Other:	<input type="checkbox"/>	
C	Other:	<input type="checkbox"/>	



SECTION 6: SEGMENT INVENTORY

Segment Breakpoints			Segment Data					Multimodal Uses				Adjacent Land Uses						Land Use Context ¹	Transportation Context ²			
ID	Intersection / Location	Type of Control	Length (Mi)	Speed Limit (MPH)	# Lanes ↓	# Lanes ↑	Turn Lane(s)	Parking	Transit	% Sidewalk ↓	% Sidewalk ↑	Residential	Commercial	Industrial	Educational	Religious	Health / EMS			Government		
6	Crawford County Line	Free																				
			6.8	65	2	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0%	0%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	
5	Exit 130 (PA 358)	Free																				
			8.3	65	2	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0%	0%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	
4	Exit 121 (US 62)	Free																				
			4.8	65	2	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0%	0%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	
3	Exit 116 (I-80)	Free																				
			4.0	65	2	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0%	0%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	
2	Exit 113 (PA 208)	Free																				
			2.2	65	2	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0%	0%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	
1	Lawrence County Line	Free																				
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	--	--	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	--	--	
		--																				

¹ Land Use Context: 1 (Rural Places), 2 (Suburban Neighborhood), 3 (Suburban Corridor), 4 (Suburban Center), 5 (Town / Village Neighborhood), 6 (Town Center), 7 (Urban Core)

² Transportation Context: 1 (Interstate), 2 (Regional Arterial), 3 (Community Arterial), 4 (Community Collector), 5 (Neighborhood Collector), 6 (Local Road / Street)



SECTION 7: ADDITIONAL FIELD OBSERVATIONS, COMMENTS, OR CONCERNS

Where applicable, reference notes by segment (1-2, 2-1, etc.):

- No observed congestion during typical weekday PM peak travel time runs.
- "Floating car" travel speeds of approximately 72 MPH on steady cruise control from end-to-end of corridor.
- Several turn-arounds for emergency vehicles located in divided portions of highway.
- "Congestion" concerns likely limited to non-recurring construction, incidents, or special events.
- Future ITS improvements per 2007 Northwest ROP include:
 - I-79 & I-80 DMS replacement and HAR deployment;
 - I-79 & PA 358 HAR deployment;
 - NW PA Region Detour Routes GIS Mapping



SECTION 8: PHOTO LOG (CORRIDOR "TYPICAL" SEGMENTS, CRITICAL INTERSECTIONS, "HOT-SPOT" CONCERNS, ETC.)

Photo # / Description:

Segment 3-4 (NB) Typical emergency vehicle turn-around



Photo # / Description:

Segment 6-5 (SB) Typical shoulder widths and travel lanes



Photo # / Description:

Node #2 (SB) Exit 113



Photo # / Description:

Node 2 / Exit 113, PA 208 Interchange



Photo # / Description:

Node 3 / Exit 116, I-80 Interchange



Photo # / Description:

Node 4 / Exit 121, US 62 Interchange





SECTION 8: PHOTO LOG (CORRIDOR "TYPICAL" SEGMENTS, CRITICAL INTERSECTIONS, "HOT-SPOT" CONCERNS, ETC.)

Photo # / Description:
Node 5 / Exit 130, PA 358 Interchange

Photo # / Description:

Photo # / Description:

Photo # / Description:

Photo # / Description:

Photo # / Description:



CONGESTION MANAGEMENT PROCESSES
 Travel Time Summary (Corridor Overview)

Corridor: #102 / I-79 (County-Wide)
 Direction: Both
 Scenario: Fall / Winter 2009

Corridor Summary by Peak / by Direction:

Corridor Description				Travel Time & Delay					Speed & Stops		
Roadway	Direction	Length	Running Time	Travel Time	Delay	Delay Rate	Delay Ratio	Total Delay	Avg Speed	Stops	Stop Rate
	(Peak)	(Miles)	(Min)	(Min)	(Min)	(Min / Mile)	(%)	(veh-hr)	(mph)	(#)	(# / Mile)
I-79	NB (AM)										
	NB (Midday)										
	NB (PM)	26.1	22.4	21.8	0.0	0.0	0%	0	72	0.0	0.0
I-79	SB (AM)										
	SB (Midday)										
	SB (PM)	26.1	22.4	21.7	0.0	0.0	0%	0	72	0.0	0.0

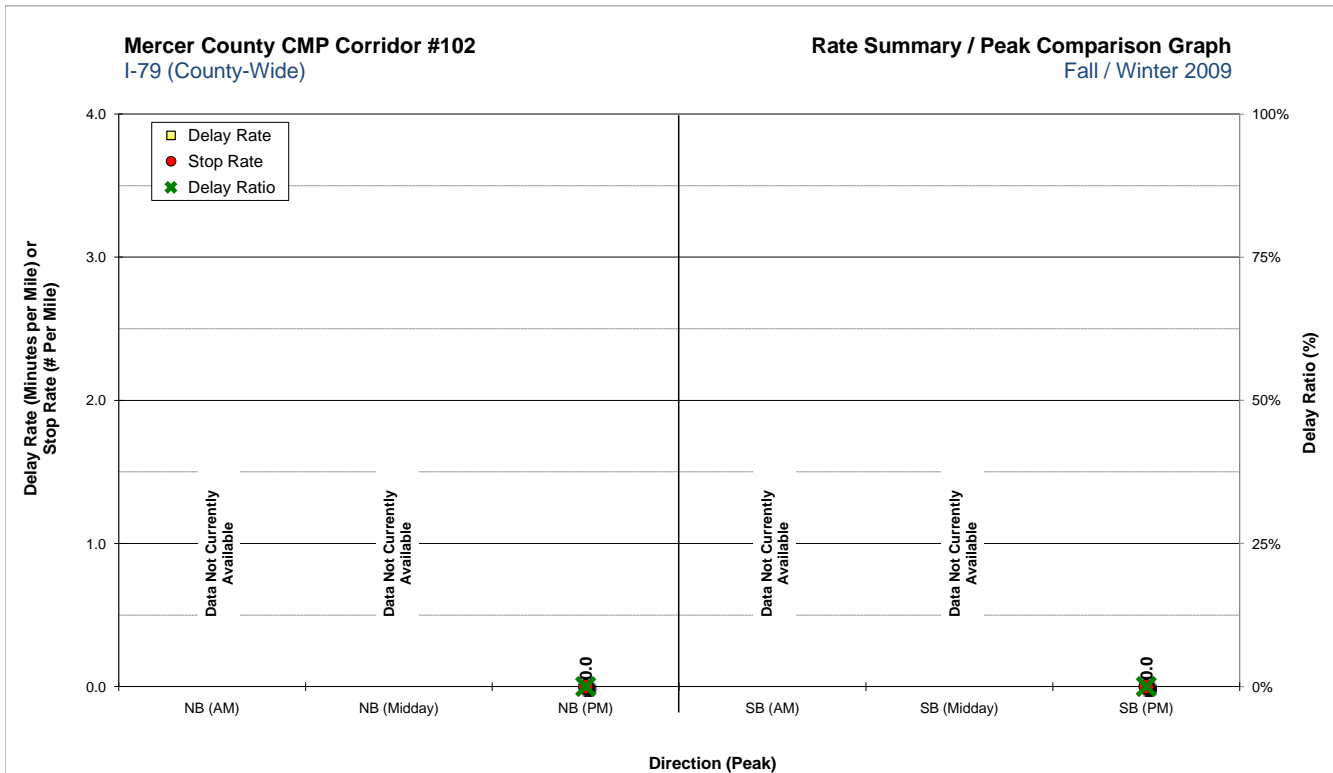
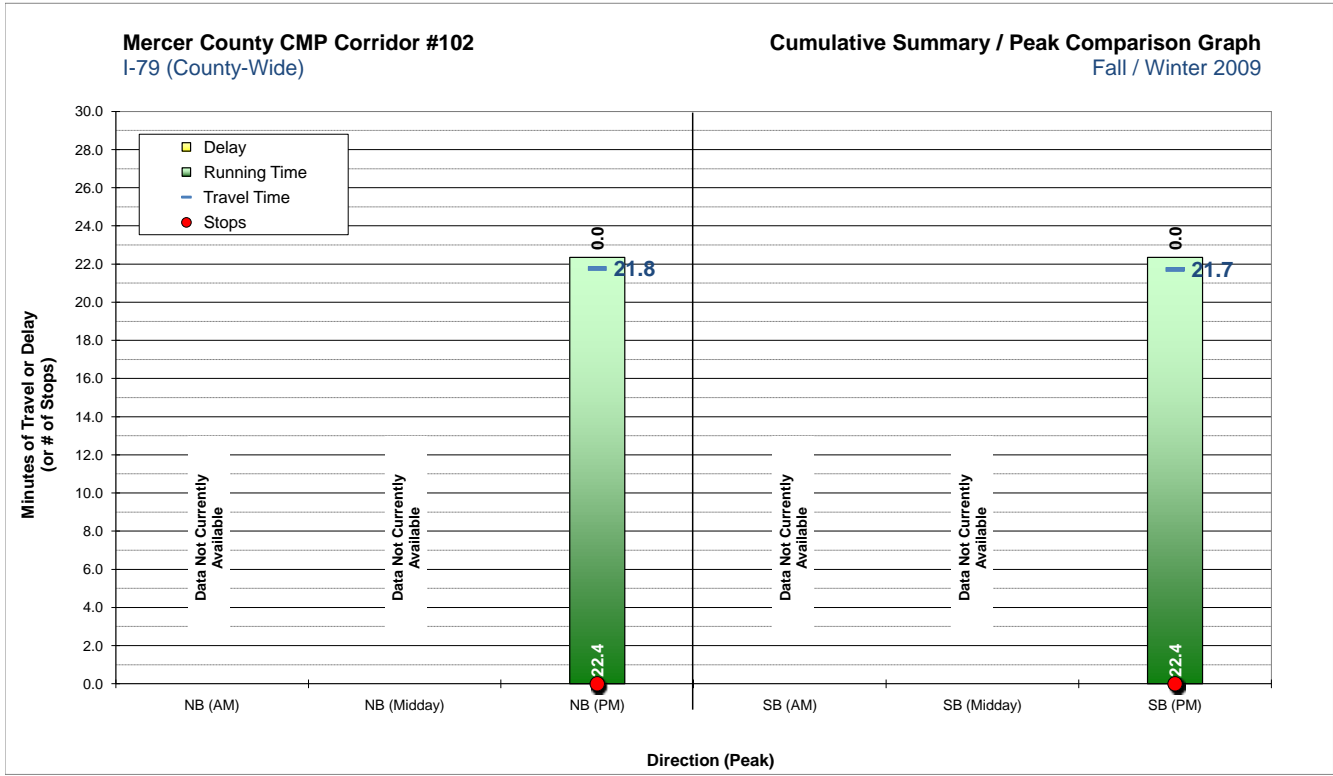
Bi-Directional Segment Summary for "Typical" Peak Period:

"Typical" Peak Period = Weekday PM Peak

Segment ADT Estimates = 17,500 to 28,900 (veh / day; bi-directional total)

Segment Peak Hour Volume Estimates = 1,750 to 2,310 (veh / hr; bi-directional total)

Segment Description				Travel Time & Delay					Speed & Stops		
GIS Segment ID	Limit 1	Limit 2	Length	Travel Time	Delay	Delay Rate	Delay Ratio	Total Delay	Avg Speed	Posted Speed	Stops
			(Min)	(Min)	(Min)	(Min / Mile)	(%)	(veh-hr)	(mph)	(mph)	(#)
102,001,002	Lawrence Co	PA 208	2.16	1.8	0.0	0.0	0%	0	72	65	0.0
102,002,003	PA 208	I-80	4.00	3.4	0.0	0.0	0%	0	72	65	0.0
102,003,004	I-80	US 62	4.76	4.0	0.0	0.0	0%	0	72	65	0.0
102,004,005	US 62	PA 358	8.35	7.0	0.0	0.0	0%	0	72	65	0.0
102,005,006	PA 358	PA 359	6.80	5.7	0.0	0.0	0%	0	72	65	0.0
Corridor Summary	Lawrence Co	PA 359	26.1	21.8	0.0	0.0	0%	0	72	65	0.0





CONGESTION MANAGEMENT PROCESSES

Travel Time Summary (Average Data)

Corridor: #102 / I-79 (County-Wide)

Direction NB

Scenario: Weekday PM Peak, Fall / Winter 2009

Notes / Definitions / Abbreviations

- * Units vary as indicated in tables below
- * Summary Table 1 indicates feet, seconds
- * Summary Table 2 indicates miles, minutes

- * BLUE = Input Data via manual direct entry
- * RED = Input Data via formula or worksheet reference updates
- * BLACK = Data automatically calculated

- NID = Node ID Number
- Dir = Direction of Travel
- TT_{avg} = Average Field-measured Travel Time (from Previous Node)
- CTT_{avg} = Average Field-measured Travel Time (Cumulative)
- TL = Travel Length (from Previous Node)
- CTL = Travel Length (Cumulative)
- Delay = Travel Delay (from Previous Node) = TT - RT_{DS}
- CD = Travel Delay (Cumulative)
- DPM = Equivalent Travel Delay Rate per Mile (from Previous Node)
- CDPM = Equivalent Travel Delay Rate per Mile (Cumulative)
- RT_{PLS} = "No Stop" Running Time @ Posted Speed (from Previous Node)
- CRT_{PLS} = "No Stop" Running Time @ Posted Speed (Cumulative)
- RT_{DS} = "No Stop" Running Time @ Design Speed (from Previous Node)
- CRT_{DS} = "No Stop" Running Time @ Design Speed (Cumulative)
- AS = Actual Average Speed (from Previous Node)
- CAS = Actual Average Speed (Cumulative)
- DS = Design Speed (or assumed Free-Flow Speed)
- PLS = Posted Speed Limit
- Stops = Number of Stops below 5 mph (from Previous Node)
- Cstops = Number of Stops below 5 mph (Cumulative)

Summary Table: Average Travel Time Data / Calculations (feet, seconds, mph)

Intersection / Link Data			Travel Time (sec)		Travel Length (feet)		Travel Delay (sec)		Delay Rate (sec / mile)		Running Time (sec @ DS)		Running Time (sec @ PLS)		Travel Speeds (mph)		Speed Limits (mph)		Stops (# of)	
Node	NID	Dir	TT _{avg}	CTT _{avg}	TL	CTL	Delay	CD	DPM	CDPM	RT _{DS}	CRT _{DS}	RT _{PLS}	CRT _{PLS}	AS	CAS	DS	PLS	Stops	CStops
Lawrence County Line (#1)	1	NB	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0
to Exit 113 (PA 208) (#2)	2	NB	108	108	11,403	11,403	-3	-3	-1	-1	111	111	120	120	72	72	70	65	0	0
to I-80 Overpass (#3)	3	NB	201	309	21,123	32,526	-5	-8	-1	-1	206	317	222	341	72	72	70	65	0	0
to Exit 121 (US 62) (#4)	4	NB	238	547	25,079	57,605	-7	-15	-1	-1	245	562	283	604	72	72	70	65	0	0
to Exit 130 (PA 358) (#5)	5	NB	419	966	44,102	101,707	-11	-26	-1	-1	429	991	463	1,067	72	72	70	65	0	0
to Crawford County Line (#6)	6	NB	340	1,306	35,858	137,565	-9	-35	-1	-1	350	1,341	376	1,443	72	72	70	65	0	0
Corridor Average			1,306		137,565		-35		-1		1,341		1,443		71.8		Varies		0.0	

Summary Table: Average Travel Time Data / Calculations (miles, minutes, mph)

Intersection / Link Data			Travel Time (min)		Travel Length (mile)		Travel Delay (min)		Delay Rate (min / mile)		Running Time (min @ DS)		Running Time (min @ PLS)		Travel Speeds (mph)		Speed Limits (mph)		Stops (# of)	
Node	NID	Dir	TT _{avg}	CTT _{avg}	TL	CTL	Delay	CD	DPM	CDPM	RT	CRT	RT _{PLS}	CRT _{PLS}	AS	CAS	DS	PLS	Stops	CStops
Lawrence County Line (#1)	1	NB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0	0
to Exit 113 (PA 208) (#2)	2	NB	1.8	1.8	2.2	2.2	0.0	0.0	0.0	0.0	1.9	1.9	2.0	2.0	72	72	70	65	0	0
to I-80 Overpass (#3)	3	NB	3.4	5.2	4.0	6.2	0.0	0.0	0.0	0.0	3.4	5.3	3.7	5.7	72	72	70	65	0	0
to Exit 121 (US 62) (#4)	4	NB	4.0	9.1	4.7	10.9	0.0	0.0	0.0	0.0	4.1	9.4	4.4	10.1	72	72	70	65	0	0
to Exit 130 (PA 358) (#5)	5	NB	7.0	16.1	8.4	19.3	0.0	0.0	0.0	0.0	7.2	16.5	7.7	17.8	72	72	70	65	0	0
to Crawford County Line (#6)	6	NB	5.7	21.8	6.8	26.1	0.0	0.0	0.0	0.0	5.8	22.4	6.3	24.0	72	72	70	65	0	0
Corridor Average			21.8		26.1		0.0		0.0		22.4		24.0		71.8		Varies		0.0	

0.0 (stops/min)

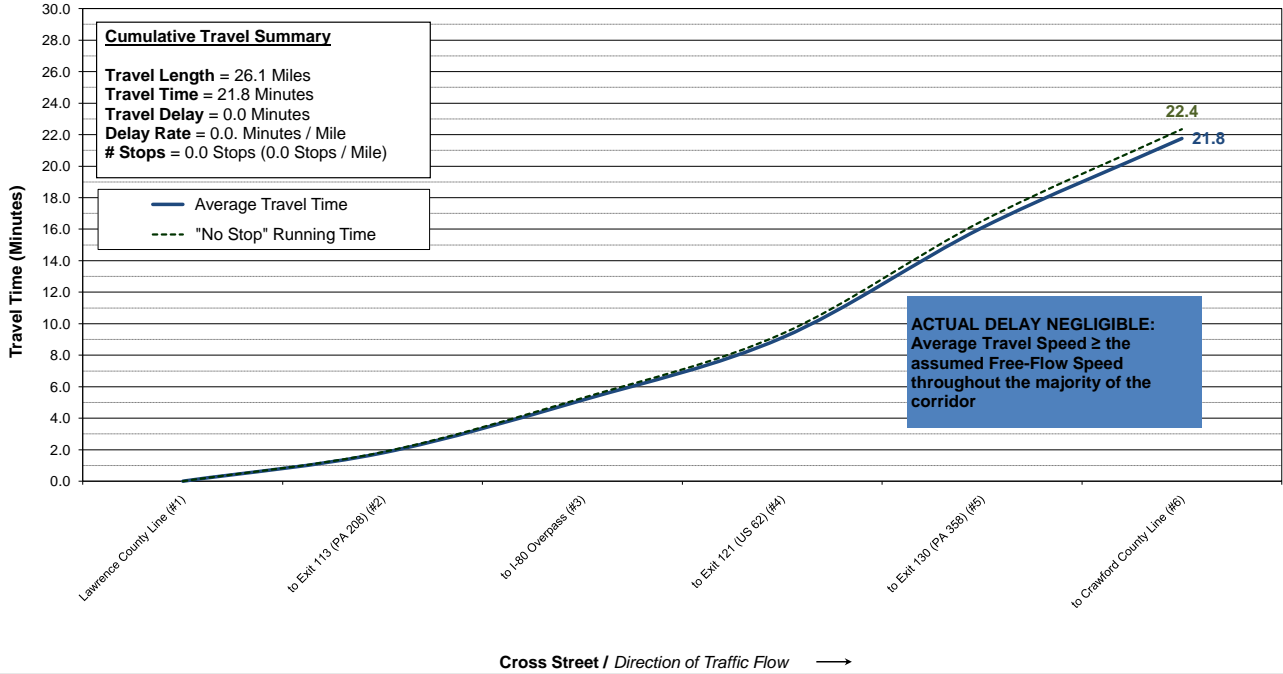


CONGESTION MANAGEMENT PROCESSES
Travel Time Summary (Average Data)

Corridor: #102 / I-79 (County-Wide)
Direction: NB
Scenario: Weekday PM Peak, Fall / Winter 2009

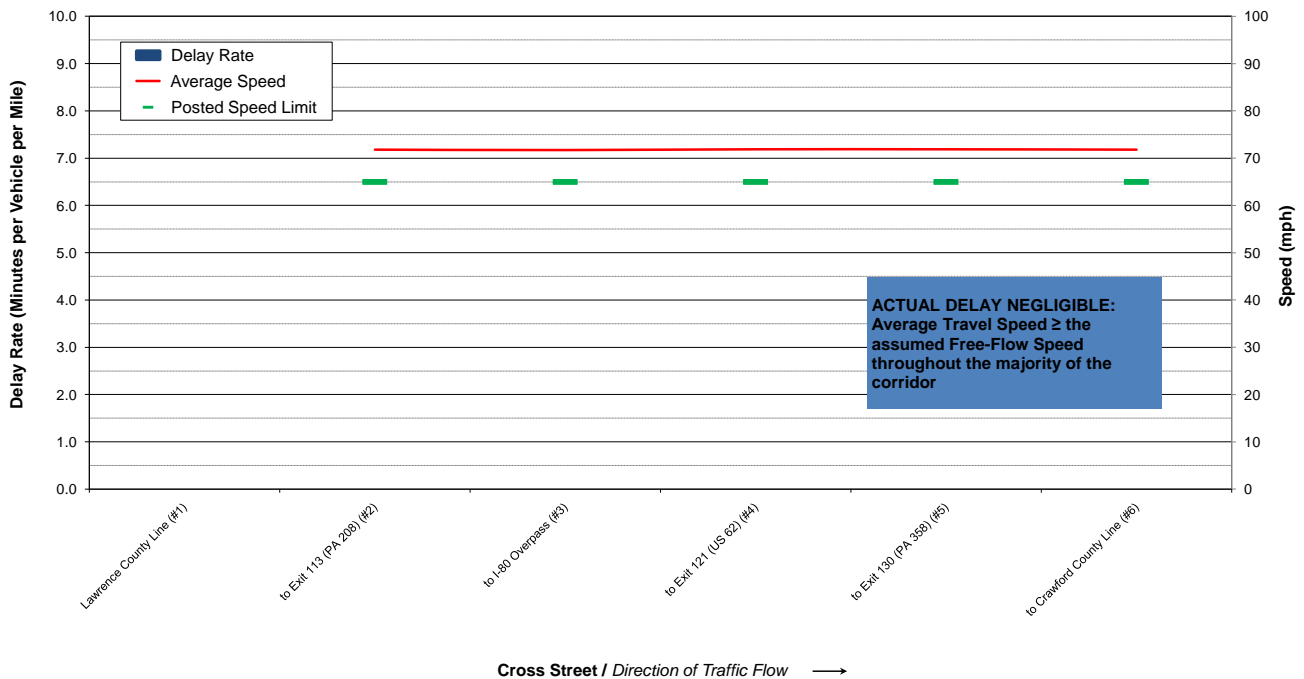
Mercer County CMP Corridor #102
I-79 (County-Wide)

Cumulative Travel Time Graph
Fall / Winter 2009 - Weekday PM Peak (NB)



Mercer County CMP Corridor #102
I-79 (County-Wide)

Segment Speed & Delay Graph
Fall / Winter 2009 - Weekday PM Peak (NB)





CONGESTION MANAGEMENT PROCESSES

Travel Time Summary (Average Data)

Corridor: #102 / I-79 (County-Wide)

Direction SB

Scenario: Weekday PM Peak, Fall / Winter 2009

Notes / Definitions / Abbreviations

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- * Summary Table 2 indicates miles, minutes

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- CTT_{avg} = Average Field-measured Travel Time (Cumulative)
- TL = Travel Length (from Previous Node)
- CTL = Travel Length (Cumulative)
- Delay = Travel Delay (from Previous Node) = TT - RT_{DS}
- CD = Travel Delay (Cumulative)
- DPM = Equivalent Travel Delay Rate per Mile (from Previous Node)
- CDPM = Equivalent Travel Delay Rate per Mile (Cumulative)
- RT_{PLS} = "No Stop" Running Time @ Posted Speed (from Previous Node)
- CRT_{PLS} = "No Stop" Running Time @ Posted Speed (Cumulative)
- RT_{DS} = "No Stop" Running Time @ Design Speed (from Previous Node)
- CRT_{DS} = "No Stop" Running Time @ Design Speed (Cumulative)
- AS = Actual Average Speed (from Previous Node)
- CAS = Actual Average Speed (Cumulative)
- DS = Design Speed (or assumed Free-Flow Speed)
- PLS = Posted Speed Limit
- Stops = Number of Stops below 5 mph (from Previous Node)
- Cstops = Number of Stops below 5 mph (Cumulative)

Summary Table: Average Travel Time Data / Calculations (feet, seconds, mph)

Intersection / Link Data			Travel Time (sec)		Travel Length (feet)		Travel Delay (sec)		Delay Rate (sec / mile)		Running Time (sec @ DS)		Running Time (sec @ PLS)		Travel Speeds (mph)		Speed Limits (mph)		Stops (# of)	
Node	NID	Dir	TT _{avg}	CTT _{avg}	TL	CTL	Delay	CD	DPM	CDPM	RT _{DS}	CRT _{DS}	RT _{PLS}	CRT _{PLS}	AS	CAS	DS	PLS	Stops	CStops
Crawford County Line (#6)	6	SB	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0
to Exit 130 (PA 358) (#5)	5	SB	342	342	35,926	35,926	-8	-8	-1	-1	350	350	377	377	72	72	70	65	0	0
to Exit 121 (US 62) (#4)	4	SB	414	756	44,081	80,007	-16	-24	-2	-2	429	779	462	839	73	72	70	65	0	0
to I-80 Overpass (#3)	3	SB	239	995	25,133	105,140	-6	-30	-1	-2	245	1,024	264	1,103	72	72	70	65	0	0
to Exit 113 (PA 208) (#2)	2	SB	200	1,195	21,143	126,283	-5	-35	-1	-1	206	1,230	222	1,325	72	72	70	65	0	0
to Lawrence County Line (#1)	1	SB	108	1,303	11,396	137,679	-3	-38	-1	-1	111	1,341	120	1,444	72	72	70	65	0	0
Corridor Average			1,303		137,679		-38		-1		1,341		1,444		72.0		Varies		0.0	

Summary Table: Average Travel Time Data / Calculations (miles, minutes, mph)

Intersection / Link Data			Travel Time (min)		Travel Length (mile)		Travel Delay (min)		Delay Rate (min / mile)		Running Time (min @ DS)		Running Time (min @ PLS)		Travel Speeds (mph)		Speed Limits (mph)		Stops (# of)	
Node	NID	Dir	TT _{avg}	CTT _{avg}	TL	CTL	Delay	CD	DPM	CDPM	RT	CRT	RT _{PLS}	CRT _{PLS}	AS	CAS	DS	PLS	Stops	CStops
Crawford County Line (#6)	6	SB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0	0
to Exit 130 (PA 358) (#5)	5	SB	5.7	5.7	6.8	6.8	0.0	0.0	0.0	0.0	5.8	5.8	6.3	6.3	72	72	70	65	0	0
to Exit 121 (US 62) (#4)	4	SB	6.9	12.6	8.3	15.2	0.0	0.0	0.0	0.0	7.2	13.0	7.7	14.0	73	72	70	65	0	0
to I-80 Overpass (#3)	3	SB	4.0	16.6	4.8	19.9	0.0	0.0	0.0	0.0	4.1	17.1	4.4	18.4	72	72	70	65	0	0
to Exit 113 (PA 208) (#2)	2	SB	3.3	19.9	4.0	23.9	0.0	0.0	0.0	0.0	3.4	20.5	3.7	22.1	72	72	70	65	0	0
to Lawrence County Line (#1)	1	SB	1.8	21.7	2.2	26.1	0.0	0.0	0.0	0.0	1.9	22.4	2.0	24.1	72	72	70	65	0	0
Corridor Average			21.7		26.1		0.0		0.0		22.4		24.1		72.0		Varies		0.0	

0.0 (stops/mi)

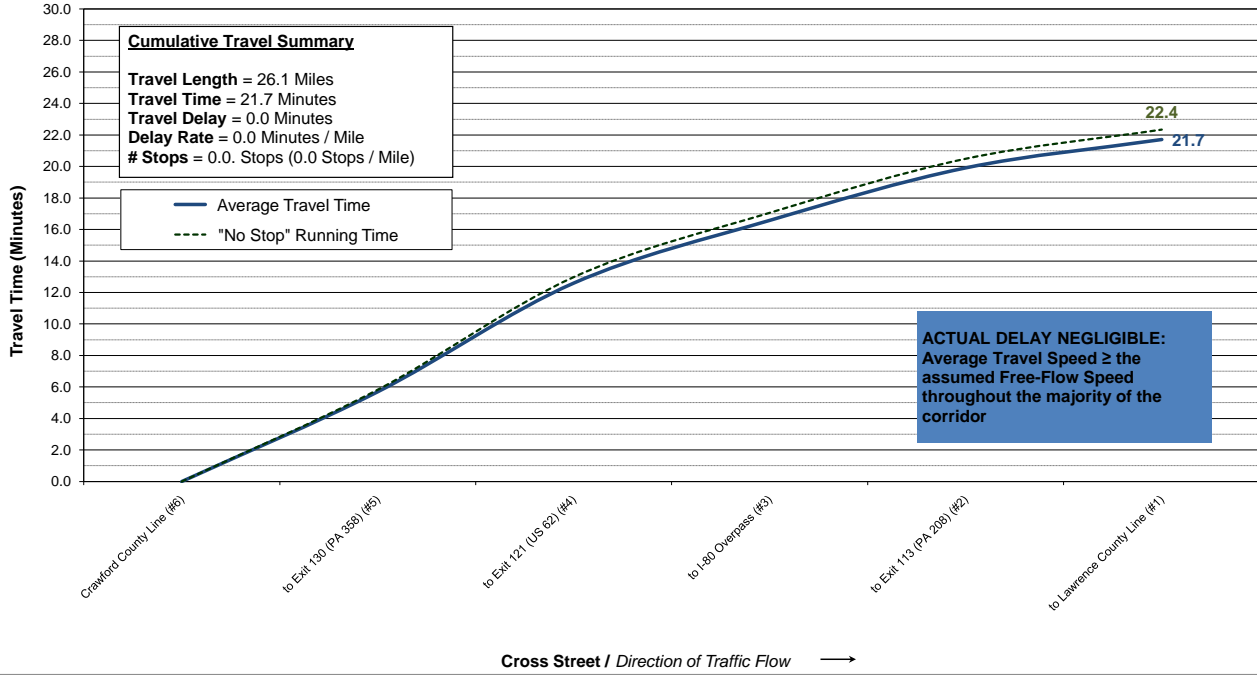


CONGESTION MANAGEMENT PROCESSES
Travel Time Summary (Average Data)

Corridor: #102 / I-79 (County-Wide)
Direction: SB
Scenario: Weekday PM Peak, Fall / Winter 2009

Mercer County CMP Corridor #102
I-79 (County-Wide)

Cumulative Travel Time Graph
Fall / Winter 2009 - Weekday PM Peak (SB)



Mercer County CMP Corridor #102
I-79 (County-Wide)

Segment Speed & Delay Graph
Fall / Winter 2009 - Weekday PM Peak (SB)

