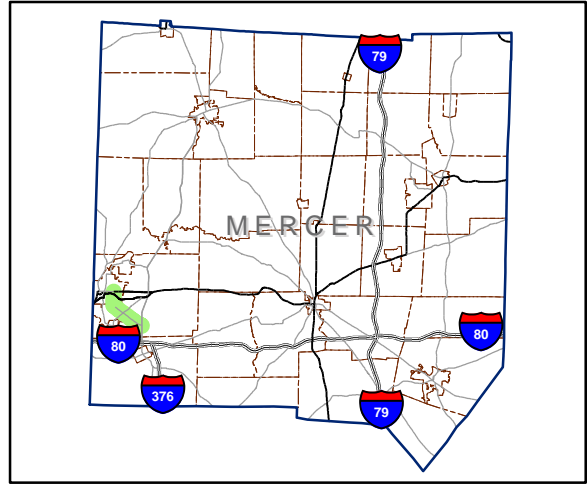
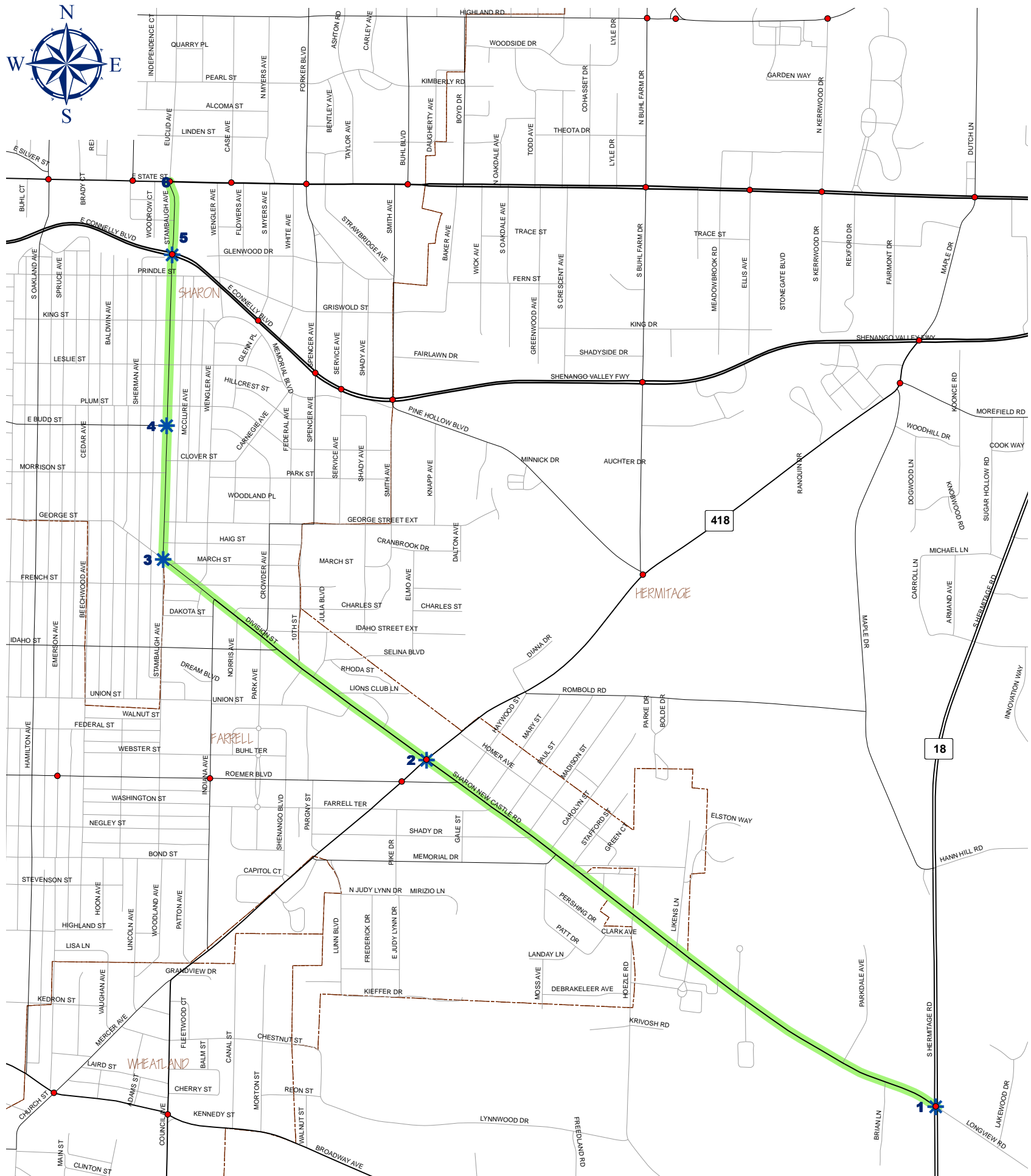


PERFORMANCE MONITORING DETAILS

CMP Corridor #404

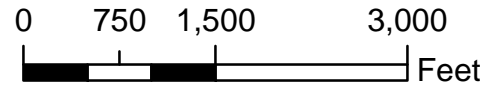
- Corridor / Node Map
- Field Reconnaissance Worksheet
- Travel Time Summary (Corridor Overview)
- Travel Time Summary (Average Data / Direction 1 at Peak)
- Travel Time Summary (Average Data / Direction 2 at Peak)



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

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

- Corridor Nodes, PA 518 @:**
- 6, E State St (SR 3008), Euclid Ave
 - 5, US 62, E Connelly Blvd
 - 4, E Budd St
 - 3, Stambaugh Ave, Division St
 - 2, PA 418, Mercer Ave
 - 1, PA 18, S Hermitage Rd



Mercer County CMP

PA 518 (Longview Rd / Stambaugh Ave)
CMP Corridor / Node Map

Mercer County Regional Planning Commission
Planning for Livable Communities

Corridor #404
Revised 04/27/10



SECTION 1: ROUTE IDENTIFICATION

A	CMP Identification #:	#404
B	Route (General Area):	PA 518 (Longview Rd / Stambaugh Ave) (Hermitage to Sharon)
C	Specific Limit 1 (South / West):	PA 18 (City of Hermitage)
D	Specific Limit 2 (North / East):	SR 3008 / E State St (City of Sharon)
E	Affected Municipalities:	Hermitage, Sharon
F	Total Corridor Length (Miles):	3.2 Miles
G	Federal Functional Class:	Minor Arterial
H	PennDOT Traffic Pattern Group:	TPG 5 (Urban - Minor Arterials, Collectors, Local Roads)
I	Typical # of Travel Lanes:	2-Lane (1 NB + 1 SB)
J	Typical Posted Speed Limit(s):	35 mph through Sharon & Farrell; 45 mph through Hermitage

SECTION 2: SPECIAL USES OR CONSIDERATIONS

A	Transit	<input checked="" type="checkbox"/>	SVSS Central and Southern Routes
B	Pedestrian / Bicycle	<input checked="" type="checkbox"/>	Access for Local Bicycle Route north of PA 418
C	Heavy Freight (Truck / Rail)	<input type="checkbox"/>	
D	Emergency Detour	<input type="checkbox"/>	
E	Tourism / Recreation / Special Events	<input type="checkbox"/>	
F	Community Concerns	<input type="checkbox"/>	
G	Growth Corridor	<input type="checkbox"/>	
H	Other: Health	<input checked="" type="checkbox"/>	Access to UPMC Horizon Hospital - Shenango Valley
I	Other: Educational	<input checked="" type="checkbox"/>	Access to Farrell HS



SECTION 3: ISSUES OR CONCERNS (RECURRING CONGESTION)

A	Roadway Capacity	<input checked="" type="checkbox"/>	Potential for peak hour congestion in vicinity of US 62.
B	Roadway Bottlenecks	<input type="checkbox"/>	
C	Signalized Intersection Operations	<input checked="" type="checkbox"/>	Potential for school-related congestion; No turn lanes at intersection w/ PA 18
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 type="checkbox"/>	
C	Special Events	<input type="checkbox"/>	
D	Construction Activities	<input type="checkbox"/>	
E	Weather or Environmental Factors	<input type="checkbox"/>	
F	Other: Grade	<input checked="" type="checkbox"/>	10% NB upgrade on southern end of corridor could delay larger vehicles
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	E State St (SR 3008) / S Euclid Ave	Semi-Act																				
			0.2	35	1	1	☒	☐	☐	100%	100%	☒	☒	☐	☐	☐	☐	☐	☐	5	4	
5	US 62, E Connelly Blvd	Actuated																				
			0.4	35	1	1	☒	☒	☐	100%	100%	☒	☒	☐	☐	☒	☐	☐	5	4		
4	E Budd St	SSSC																				
			0.3	35	1	1	☒	☐	☐	50%	50%	☒	☐	☐	☐	☐	☐	☐	5	4		
3	Stambaugh Ave / Division St	AWSC																				
			0.8	35	1	1	☒	☐	☐	0%	0%	☒	☒	☐	☒	☒	☐	☒	5	4		
2	PA 418, Mercer Ave	Pretimed																				
			1.5	35-45	1	1	☐	☐	☐	0%	25%	☒	☒	☐	☐	☒	☒	☐	2	4		
1	PA 18, S Hermitage Rd	Actuated																				
							☐	☐	☐	--	--	☐	☐	☐	☐	☐	☐	☐	--	--		
		--																				

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.):

- Moderate queuing observed through Node #5 (signal at US 62), particularly SB during afternoon peak (possibly related to Sharon HS, Sharon Hospital and related traffic from E State St).
- On-street parking on some segments (southbound right-side of road); typically no markings, just extra-wide pavement.
- Local bicycle route signing via Crowder Ave (between Nodes #2 and #3).
- US Army Reserve Center located north of Node #2.
- Farrell HS located north of Node #2; potential for school-related traffic congestion.
- 10% southbound downgrade approaching Node #1 / PA 18.
- No intersection turn lanes on PA 518 at Node #1 / PA 18.
- Free-flow speeds between nodes 3-5 are likely no greater than the 35 MPH posted speed limit (and possibly less) given the residential "feel" of the area with on-street parking, sidewalks, etc.



SECTION 7: ADDITIONAL FIELD OBSERVATIONS, COMMENTS, OR CONCERNS (CONTINUED)

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

A large, empty rectangular box with a black border, intended for field observations, comments, or concerns. The box is currently blank.



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

Photo # / Description:
SB approach to #1 (PA 18)



Photo # / Description:
Segment 1-2 (NB) view north of PA 18



Photo # / Description:
Segment 1-2 (NB) view north on 10% upgrade



Photo # / Description:
Segment 1-2 (NB) near cemeteries / Likens Ln



Photo # / Description:
Segment 1-2 (NB) entering Farrell



Photo # / Description:
NB approach to #2 (PA 418, Mercer Ave)





SECTION 8: PHOTO LOG (CONTINUED)

Photo # / Description:
Segment 2-3 (NB) north of PA 418



Photo # / Description:
Segment 3-4 (NB) w/ on-street parking



Photo # / Description:
NB approach to #5 (US 62)



Photo # / Description:

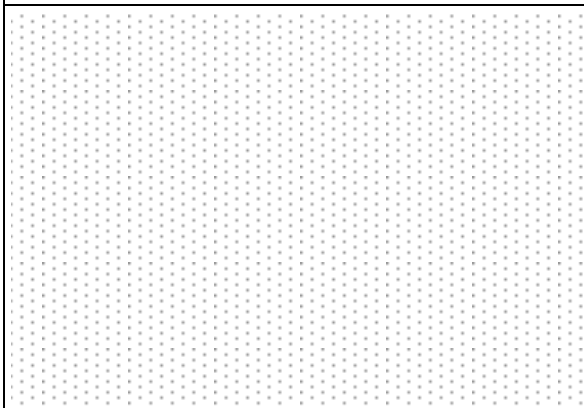


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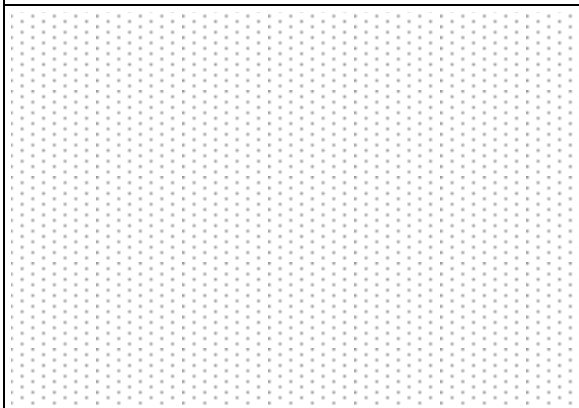
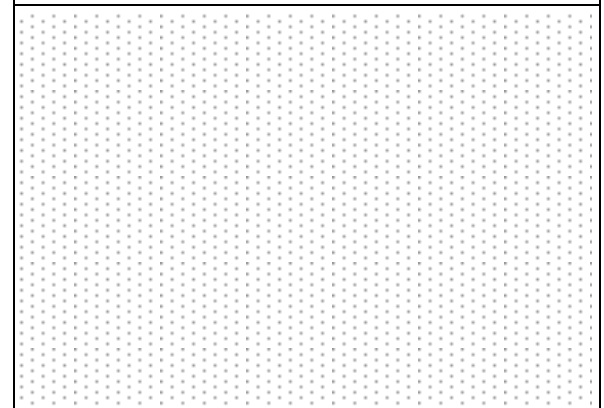


Photo # / Description:





CONGESTION MANAGEMENT PROCESSES
Travel Time Summary (Corridor Overview)

Corridor: #404 / PA 518 (Hermitage to Sharon)
Direction: Both
Scenario: Fall / Winter 2009

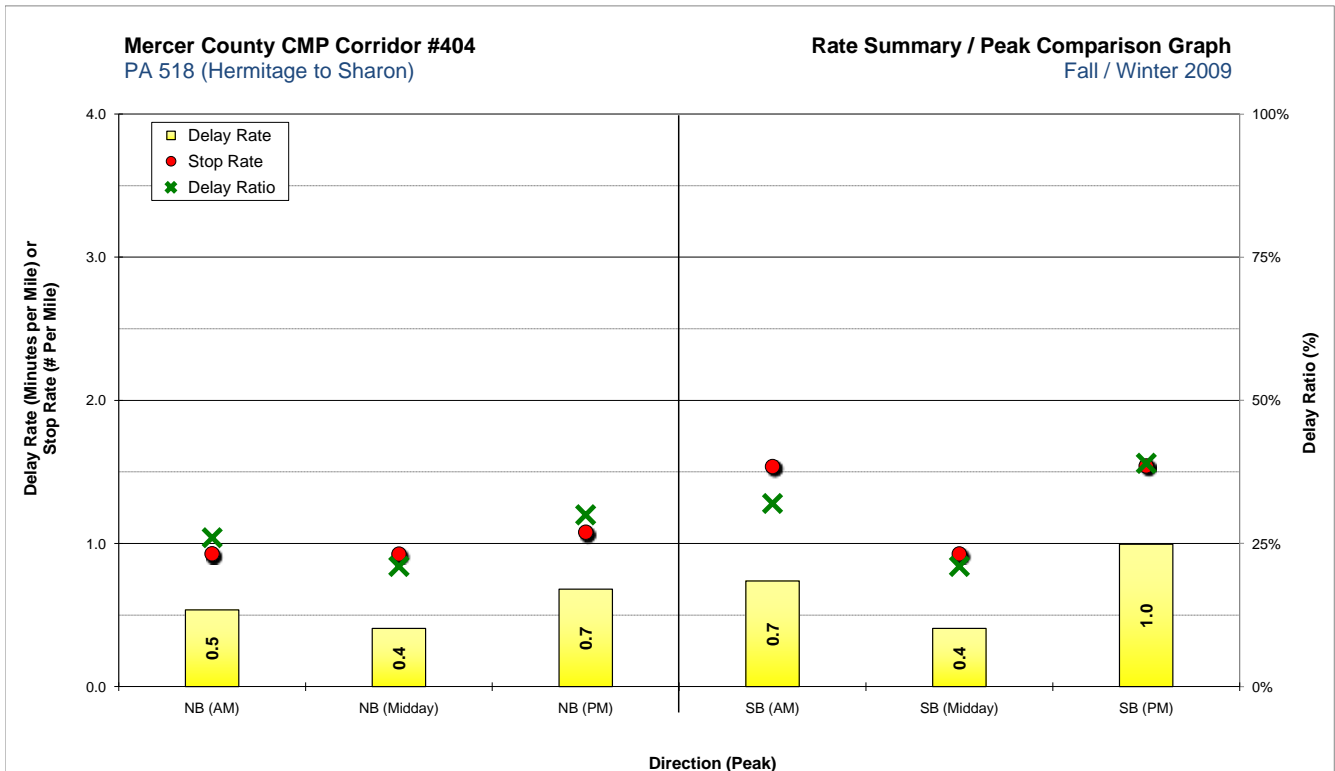
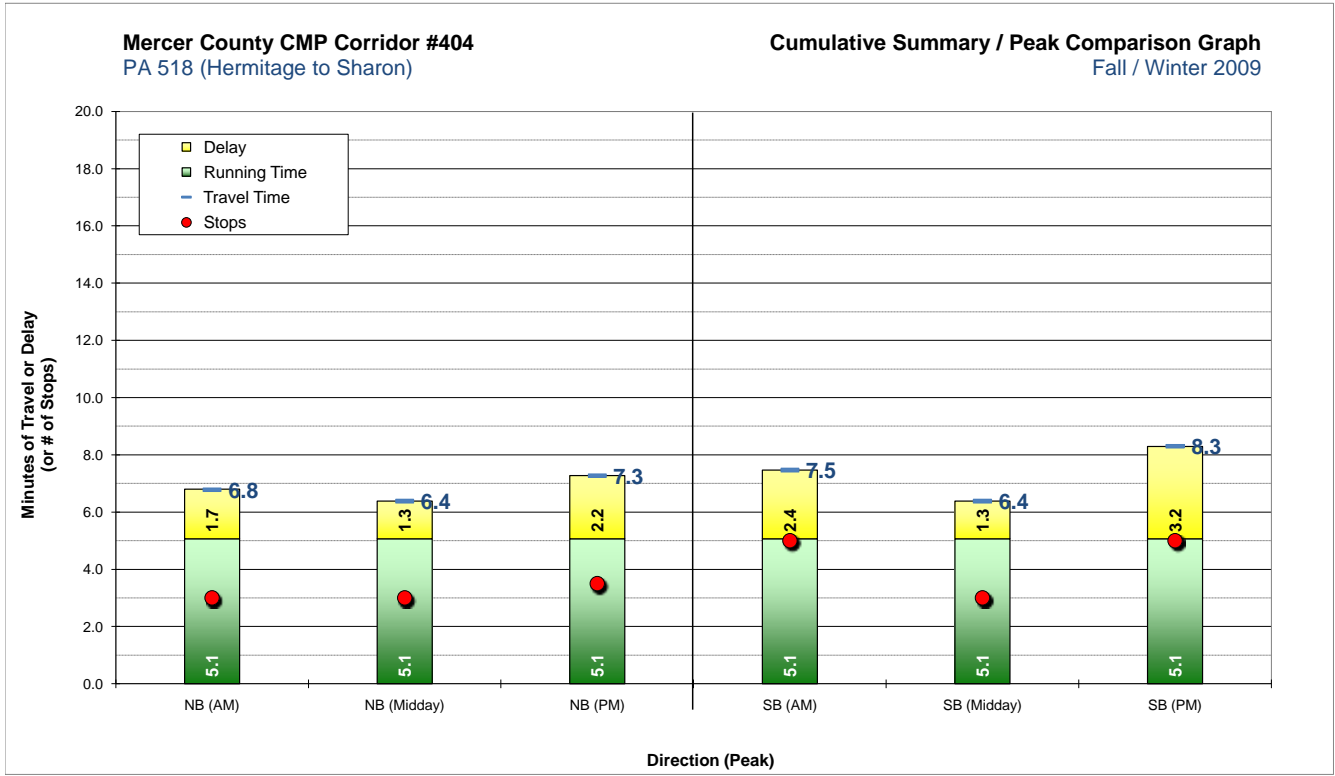
Corridor Summary by Peak / by Direction:

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)
PA 518	NB (AM)	3.2	5.1	6.8	1.7	0.5	26%	11	29	3.0	0.9
	NB (Midday)	3.2	5.1	6.4	1.3	0.4	21%	8	30	3.0	0.9
	NB (PM)	3.2	5.1	7.3	2.2	0.7	30%	16	27	3.5	1.1
PA 518	SB (AM)	3.3	5.1	7.5	2.4	0.7	32%	18	26	5.0	1.5
	SB (Midday)	3.2	5.1	6.4	1.3	0.4	21%	9	30	3.0	0.9
	SB (PM)	3.2	5.1	8.3	3.2	1.0	39%	27	23	5.0	1.5

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

"Typical" Peak Period = Weekday PM Peak
 Segment ADT Estimates = 8,400 to 11,200 (veh / day; bi-directional total)
 Segment Peak Hour Volume Estimates = 920 to 1,010 (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)	(#)
404,001,002	PA 18	PA 418	1.51	3.4	1.2	0.8	34%	16	28	35	2.0
404,002,003	PA 418	Stambaugh	0.81	1.8	0.6	0.8	33%	9	27	35	2.0
404,003,004	Stambaugh	Budd	0.33	0.9	0.3	1.0	37%	3	22	35	1.0
404,004,005	Budd	US 62	0.42	1.1	0.4	0.9	34%	4	26	35	0.5
404,005,006	US 62	State	0.18	1.3	1.0	5.4	75%	11	9	35	1.0
Corridor Summary	PA 18	State	3.2	8.3	3.2	1.0	39%	43	23	35	5.0





CONGESTION MANAGEMENT PROCESSES
Travel Time Summary (Average Data)

Corridor: #404 / PA 518 (Hermitage to Sharon)
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
PA 18	1	NB	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0
to PA 418, Mercer Ave (#2)	2	NB	189	189	7,968	7,968	54	54	35	35	136	136	155	155	31	31	40	35	1	1
to Stambaugh Ave / Division St (#3)	3	NB	103	292	4,250	12,218	30	83	37	36	73	209	83	238	29	29	40	35	2	3
to E Budd St (#4)	4	NB	39	330	1,719	13,937	5	88	14	33	33	242	33	271	31	29	35	35	0	3
to US 62, E Connelly Blvd (#5)	5	NB	65	395	2,228	16,164	22	110	52	36	43	285	43	315	26	28	35	35	1	3
to E State St (SR 3008) / S Euclid Ave (#6)	6	NB	42	437	964	17,128	23	133	126	41	19	304	19	334	18	27	35	35	1	4
Corridor Average			437		17,128		133		41		304		334		26.8		Varies		3.5	

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
PA 18	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 PA 418, Mercer Ave (#2)	2	NB	3.2	3.2	1.5	1.5	0.9	0.9	0.6	0.6	2.3	2.3	2.6	2.6	31	31	40	35	1	1
to Stambaugh Ave / Division St (#3)	3	NB	1.7	4.9	0.8	2.3	0.5	1.4	0.6	0.6	1.2	3.5	1.4	4.0	29	29	40	35	2	3
to E Budd St (#4)	4	NB	0.6	5.5	0.3	2.6	0.1	1.5	0.2	0.6	0.6	4.0	0.6	4.5	31	29	35	35	0	3
to US 62, E Connelly Blvd (#5)	5	NB	1.1	6.6	0.4	3.1	0.4	1.8	0.9	0.6	0.7	4.8	0.7	5.2	26	28	35	35	1	3
to E State St (SR 3008) / S Euclid Ave (#6)	6	NB	0.7	7.3	0.2	3.2	0.4	2.2	2.1	0.7	0.3	5.1	0.3	5.6	18	27	35	35	1	4
Corridor Average			7.3		3.2		2.2		0.7		5.1		5.6		26.8		Varies		3.5	

1.1 (stops/min)

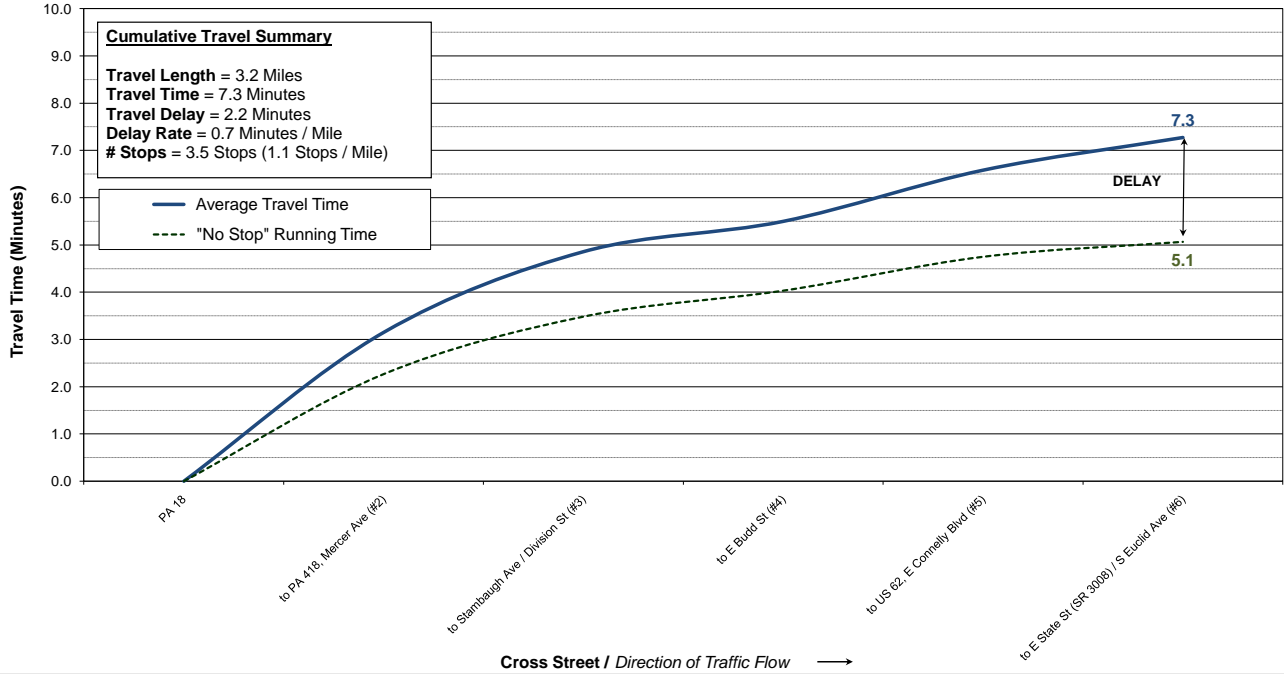


CONGESTION MANAGEMENT PROCESSES
Travel Time Summary (Average Data)

Corridor: #404 / PA 518 (Hermitage to Sharon)
Direction: NB
Scenario: Weekday PM Peak, Fall / Winter 2009

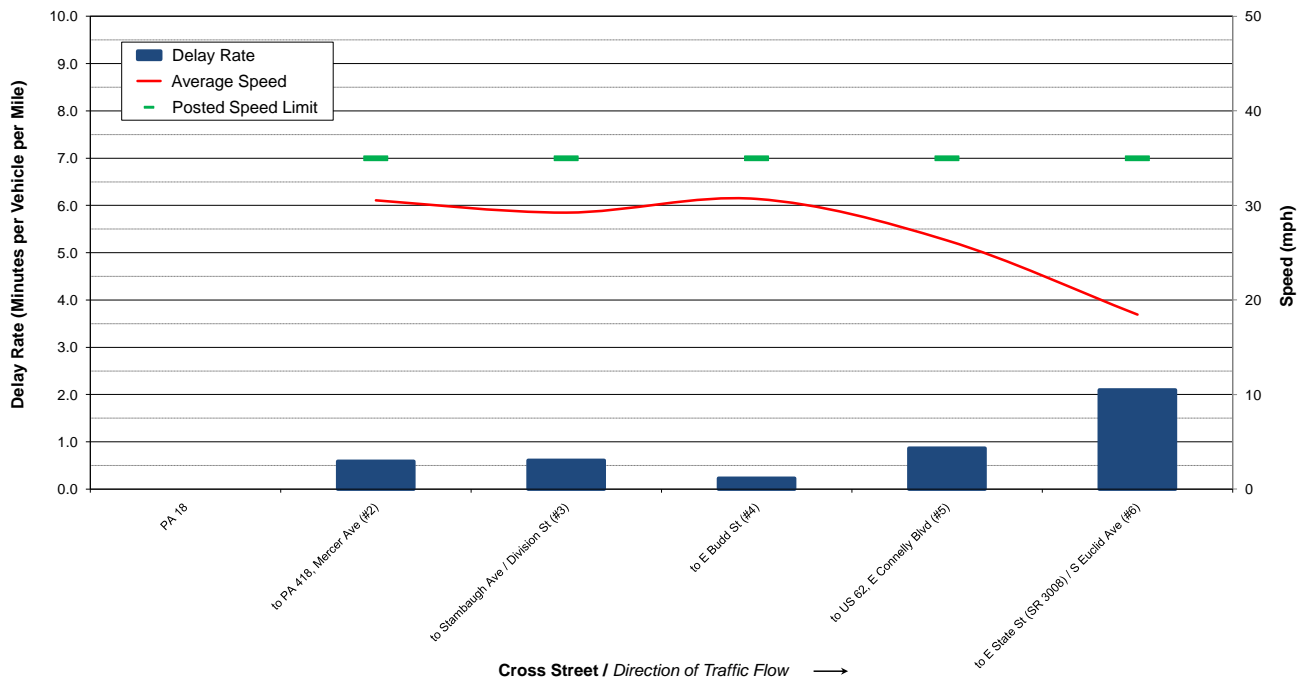
Mercer County CMP Corridor #404
PA 518 (Hermitage to Sharon)

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



Mercer County CMP Corridor #404
PA 518 (Hermitage to Sharon)

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





CONGESTION MANAGEMENT PROCESSES

Travel Time Summary (Average Data)

Corridor: #404 / PA 518 (Hermitage to Sharon)

Direction SB

Scenario: Weekday PM Peak, Fall / Winter 2009

Notes / Definitions / Abbreviations

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

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Dir = Direction of Travel
TT_{avg} = Average Field-measured Travel Time (from Previous Node)
CTT_{avg} = Average Field-measured Travel Time (Cumulative)
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CTL = Travel Length (Cumulative)
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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
E State St (SR 3008) / S Euclid Ave (#6)	6	SB	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0
to US 62, E Connelly Blvd (#5)	5	SB	78	78	956	956	59	59	323	323	19	19	19	19	9	9	35	35	1	1
to E Budd St (#4)	4	SB	52	129	2,201	3,157	9	67	20	112	43	62	43	61	29	17	35	35	0	1
to Stambaugh Ave / Division St (#3)	3	SB	54	183	1,715	4,871	20	87	62	94	33	95	33	95	22	18	35	35	1	2
to PA 418, Mercer Ave (#2)	2	SB	109	292	4,273	9,144	37	124	45	71	73	168	83	178	27	21	40	35	1	3
to PA 18, S Hermitage Rd (#1)	1	SB	206	498	7,980	17,124	70	194	46	60	136	304	155	334	28	24	40	35	2	5
Corridor Average			498		17,124		194		60		304		334		23.8		Varies		5.0	

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
E State St (SR 3008) / S Euclid Ave (#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 US 62, E Connelly Blvd (#5)	5	SB	1.3	1.3	0.2	0.2	1.0	1.0	5.4	5.4	0.3	0.3	0.3	0.3	9	9	35	35	1	1
to E Budd St (#4)	4	SB	0.9	2.2	0.4	0.6	0.1	1.1	0.3	1.9	0.7	1.0	0.7	1.0	29	17	35	35	0	1
to Stambaugh Ave / Division St (#3)	3	SB	0.9	3.1	0.3	0.9	0.3	1.5	1.0	1.6	0.6	1.6	0.6	1.6	22	18	35	35	1	2
to PA 418, Mercer Ave (#2)	2	SB	1.8	4.9	0.6	1.7	0.6	2.1	0.8	1.2	1.2	2.8	1.4	3.0	27	21	40	35	1	3
to PA 18, S Hermitage Rd (#1)	1	SB	3.4	8.3	1.5	3.2	1.2	3.2	0.8	1.0	2.3	5.1	2.6	5.6	28	24	40	35	2	5
Corridor Average			8.3		3.2		3.2		1.0		5.1		5.6		23.8		Varies		5.0	

1.5 (stops/mi)

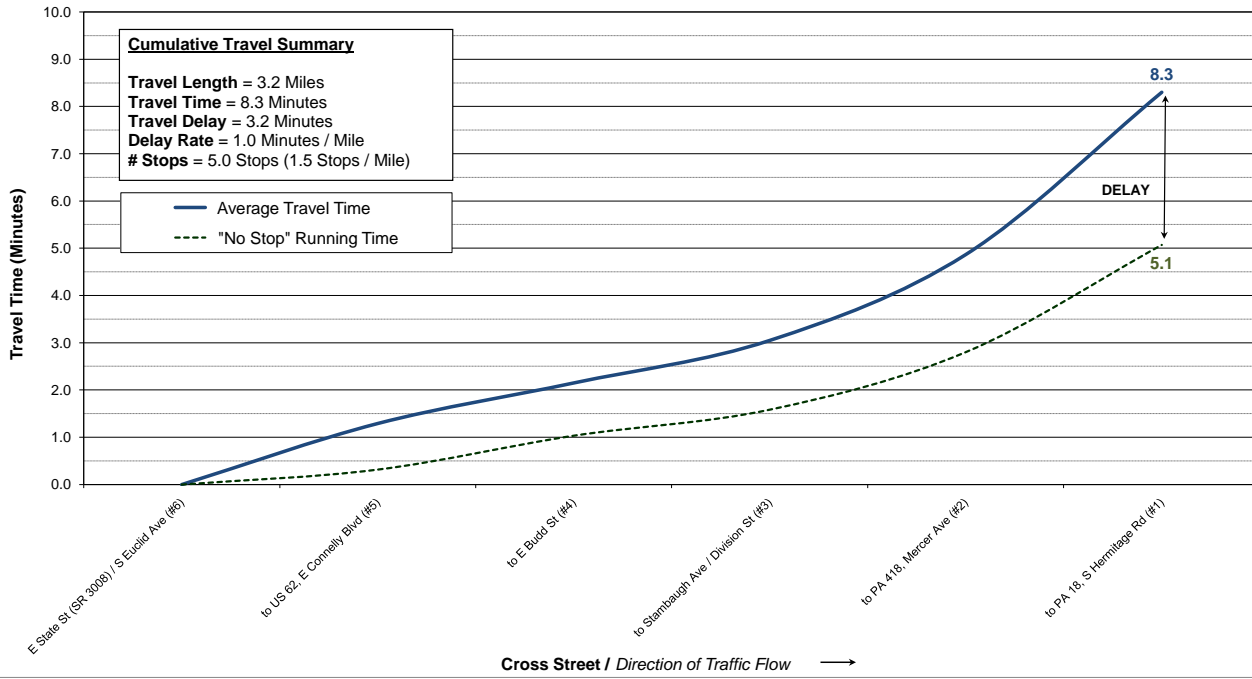


CONGESTION MANAGEMENT PROCESSES
Travel Time Summary (Average Data)

Corridor: #404 / PA 518 (Hermitage to Sharon)
Direction: SB
Scenario: Weekday PM Peak, Fall / Winter 2009

Mercer County CMP Corridor #404
PA 518 (Hermitage to Sharon)

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



Mercer County CMP Corridor #404
PA 518 (Hermitage to Sharon)

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

