South Lewis County Subarea Transportation Plan Stakeholder Meeting

February 23, 2009

Toledo City Hall

Presentation Outline

- Lewis County Travel Demand Modeling
  - 2008 Model Update
  - Winlock FEIS
- 2008 Existing Conditions
- 2035 Future Conditions
- Draft 2035 Mitigation
- Mitigation Strategies
- Next Steps

Travel Demand Modeling

- 2008 Demand Model Update from 2005 EMME

2035 Roadway Network Assumptions

- I-5: 6 lanes by 2035
- Mickelson Parkway Extension
- Nevil connection to Mickelson Parkway

2035 Countywide Land Use – Population

- Low Land Use: 115,476
- Medium Land Use:133,294
- High Land Use: 153,288

Travel Demand Modeling – South County Land Use

- 2035 South County Land Use
  - REQ Center in Winlock UGA
  - Winlock FEIS land use incorporated
  - Land use growth in Toledo incorporated

Year	Housing	Employment
2008	4,218	2,248
2035 LOW	7,216	4,524
2035 MEDIUM	**8,208**	**6,752**
2035 HIGH	15,990	12,188

Winlock FEIS

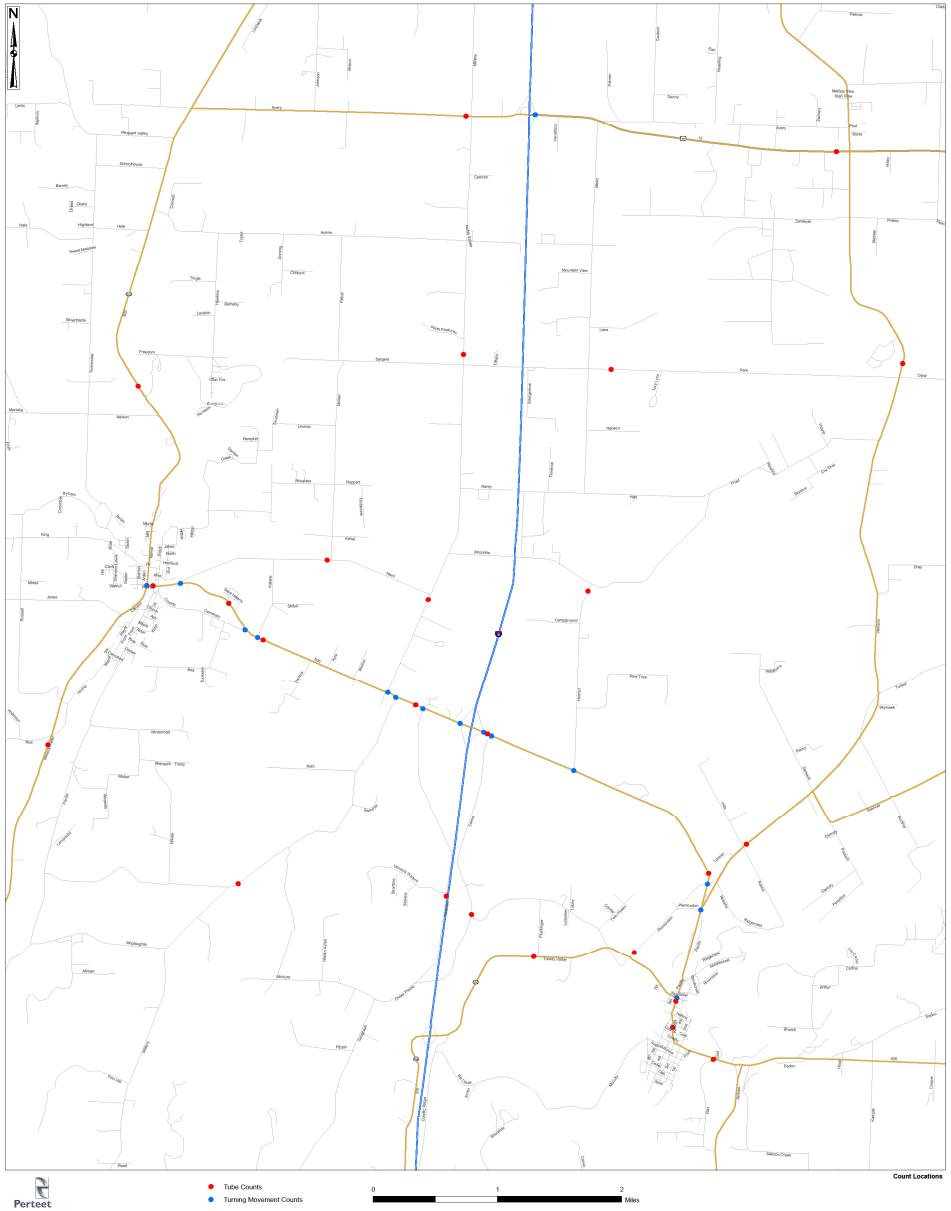
- 1998 T-Model2 Lewis County Model
- Timeline of Winlock FEIS and Lewis County EMME Model
- Modeling Methodology
  - Background traffic growth of 2.5% per year
  - ITE Trip Generation Rates for UGA land use
- Network Assumptions
- Implications to Subarea Transportation Plan

2008 Existing Subarea Conditions

- Traffic
  - Count Program: Intersections and Roadway segments
  - Segment Volume-Capacity Ratios
  - Intersection Level of Service
- Accidents: 5-year WSDOT History
- Access: Current WSDOT Data

2008 Existing Traffic – Count Locations

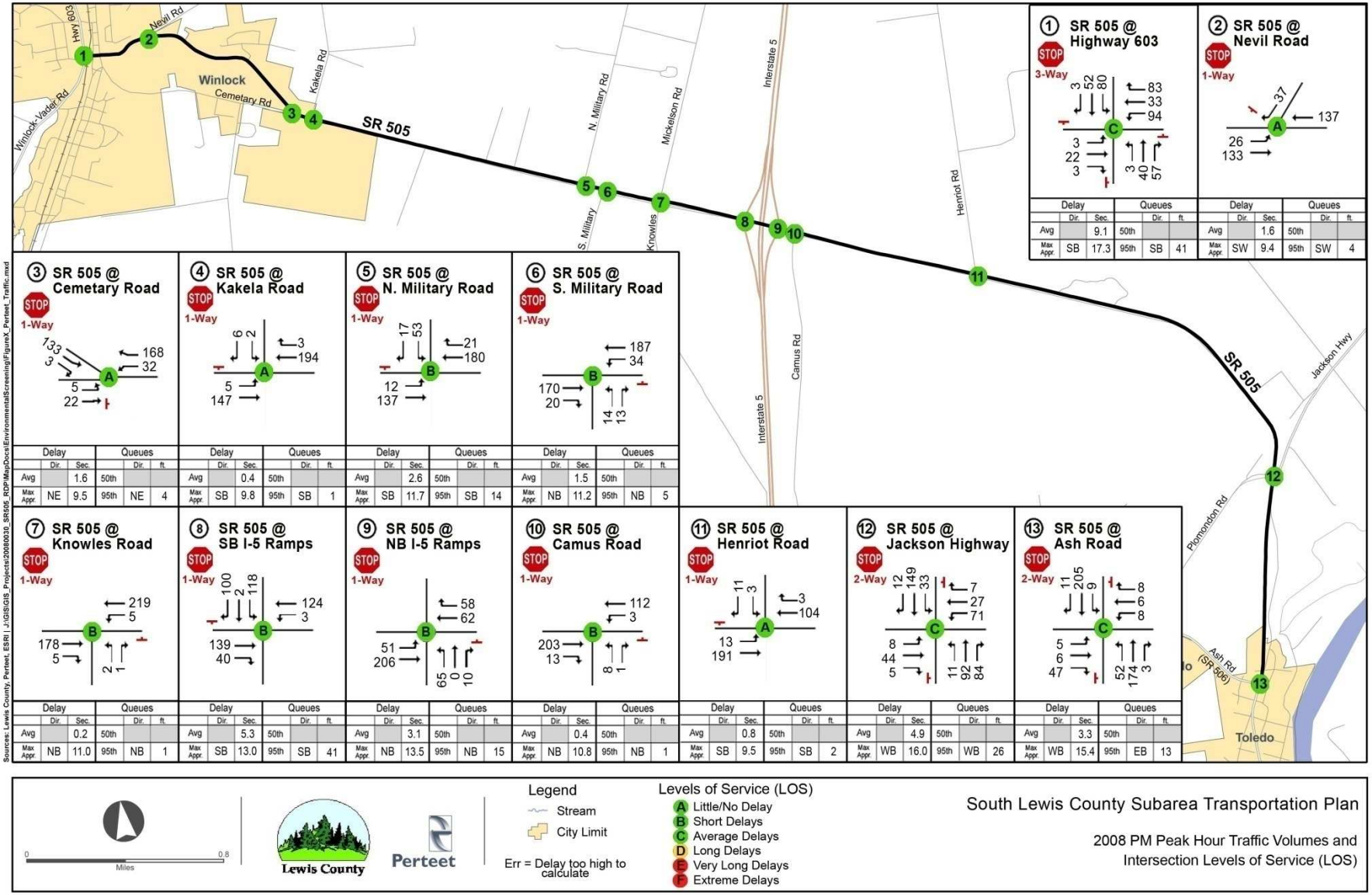
- Segment Count
- Intersection Count



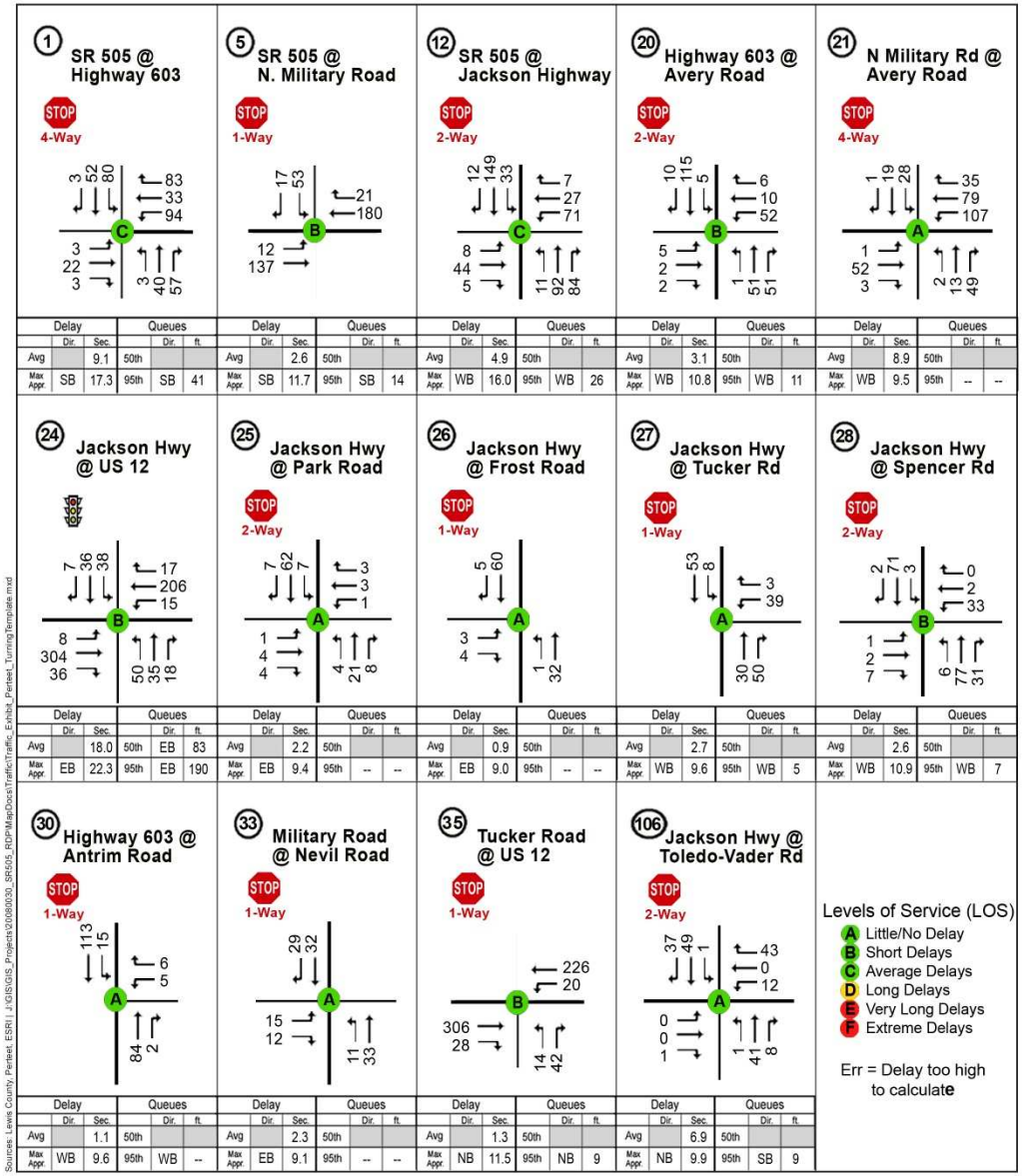
2008 Existing Traffic – SR 505 Volume-Capacity Ratios

Segment	AM Peak	PM Peak
SR 603 to Nevil	**0.19**	**0.21**
Nevil to Cemetary Road	**0.13**	**0.17**
Cemetary Road to Kakela	**0.15**	**0.20**
Kakela to N. Military	**0.15**	**0.19**
N. Military to S. Military	**0.16**	**0.22**
S. Military to Knowles	**0.17**	**0.22**
Knowles to SB I5 Ramp	**0.18**	**0.22**
SB I5 Ramp to NB I5 Ramps	**0.16**	**0.21**
NB I5 Ramps to Camus	**0.15**	**0.19**
Camus to Henriot	**0.15**	**0.18**
Henriot to Jackson Highway	**0.15**	**0.17**
Jackson Highway to Ash	**0.21**	**0.23**

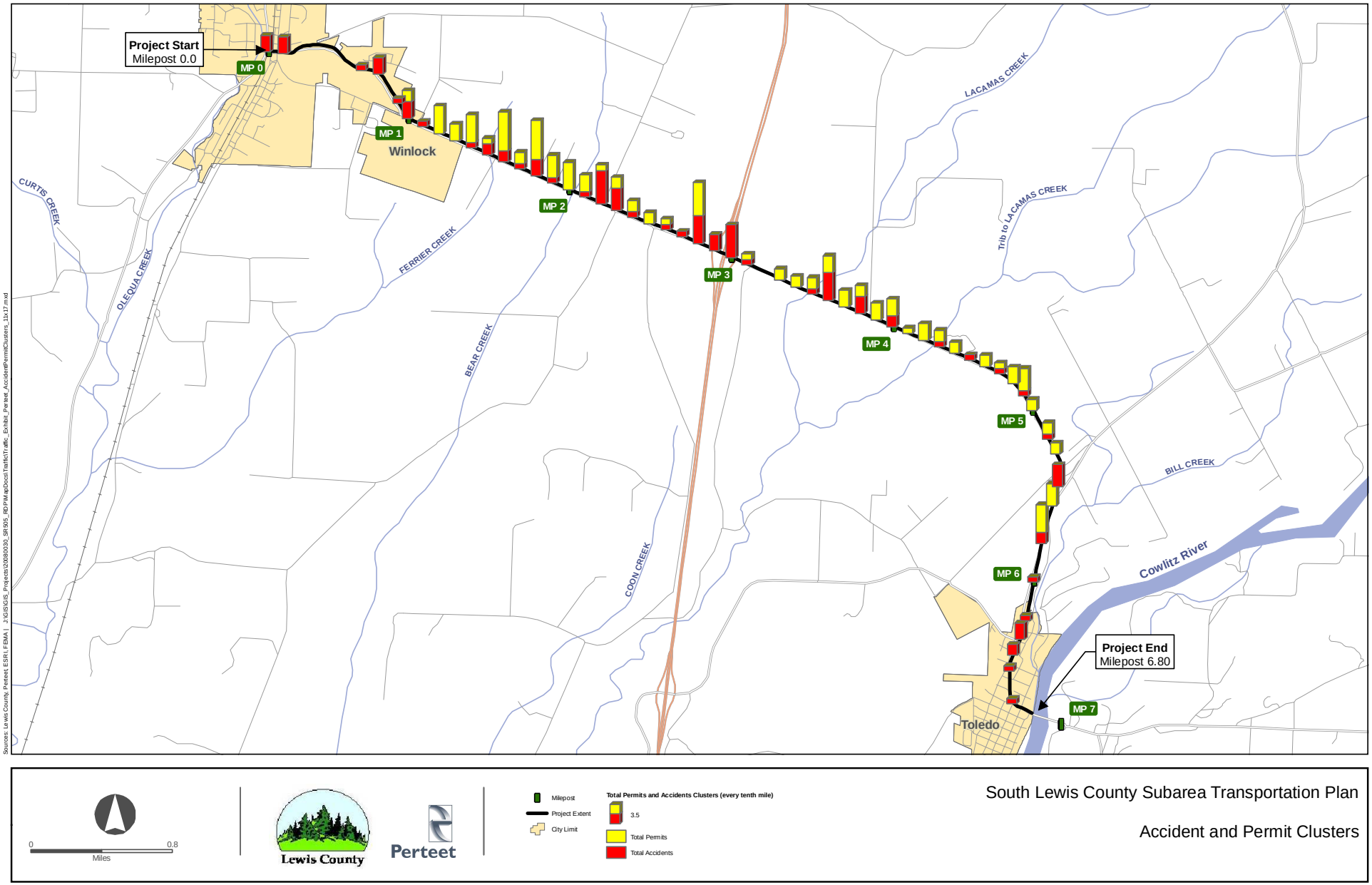
2008 Existing Traffic – SR 505 PM Intersection LOS



2008 Existing Traffic – Subarea Arterials PM Peak Intersection LOS



SR 505 Accident-Permit Correlation

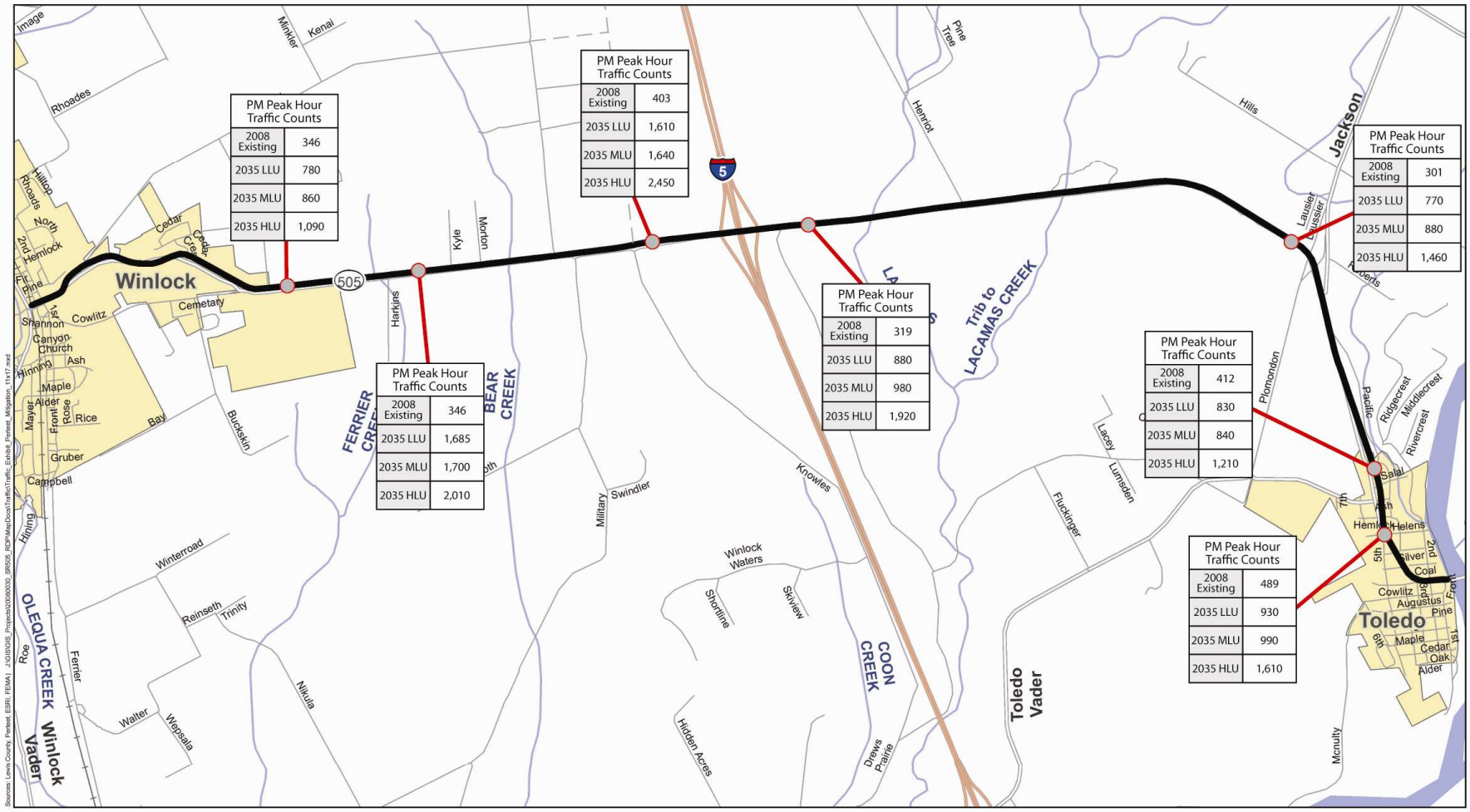


2008 Existing Traffic –
SR 505 PM Peak Traffic Simulation

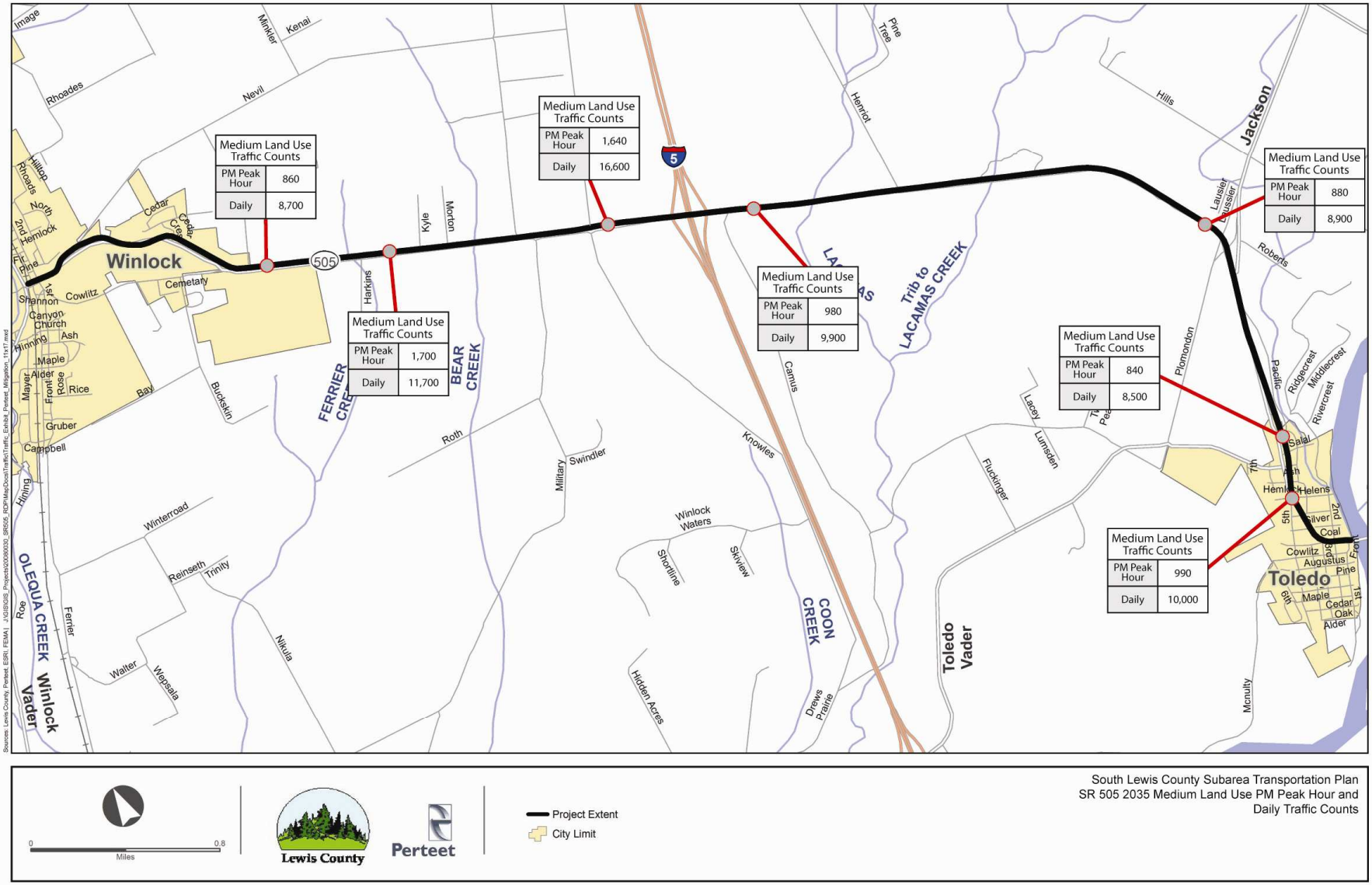
Subarea 2035 Conditions

- Traffic Volumes – SR 505 and Other Arterials
- Medium Land Use – SR 505 and Other Arterials
  - Segment Volume-Capacity
  - Intersection LOS
- SR 505
  - Segment and Intersection Mitigation
  - Traffic Simulation without Mitigation
  - Traffic Simulation with Mitigation

Subarea 2035 Conditions – SR 505 PM Peak Traffic Volumes

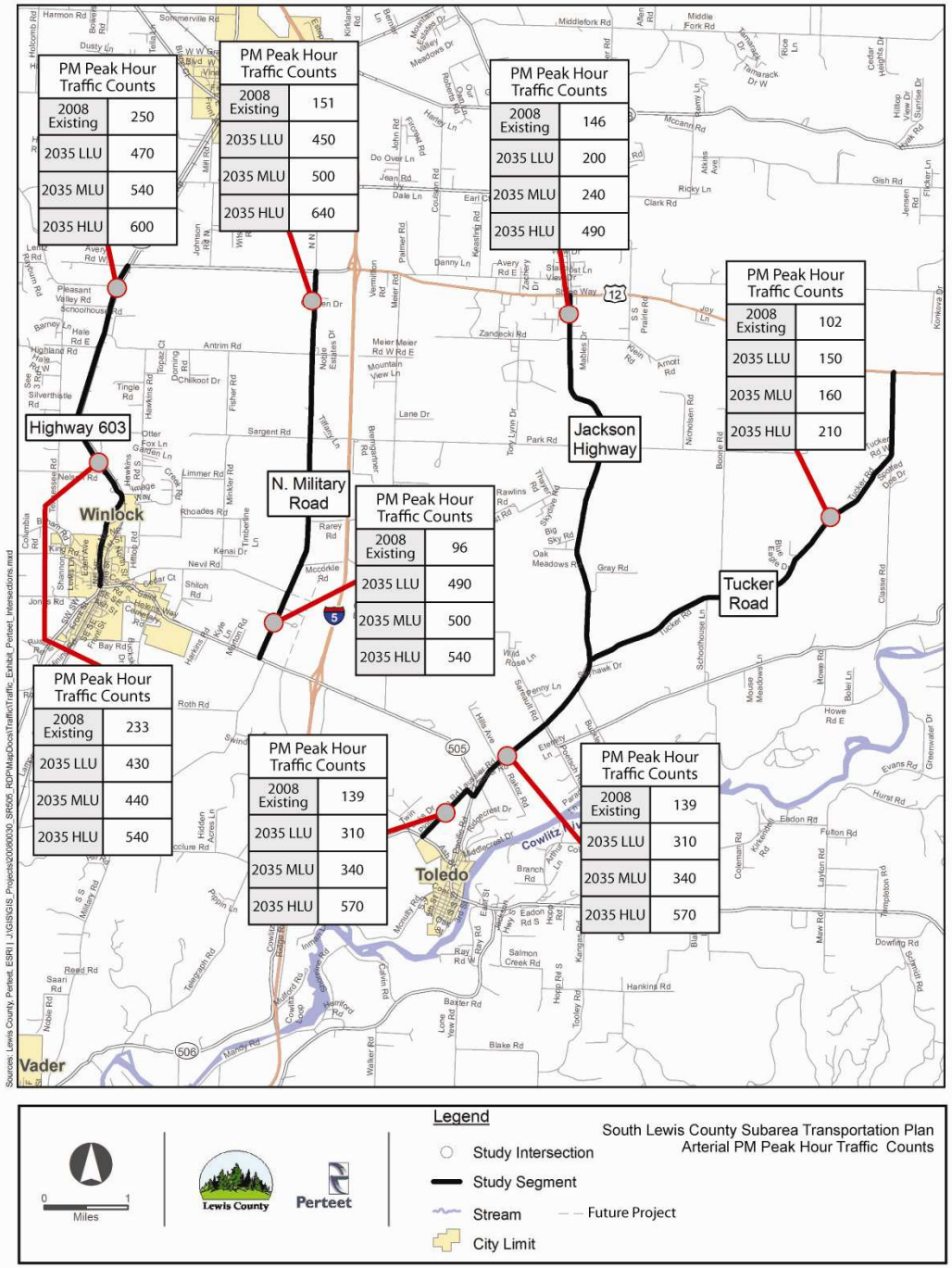


Subarea 2035 Conditions – SR 505 Medium LU Traffic Volumes



South Lewis County Subarea Transportation Plan
SR 505 2035 Medium Land Use PM Peak Hour and Daily Traffic Counts

Subarea 2035 Conditions – Subarea Arterials PM Peak Traffic Volumes



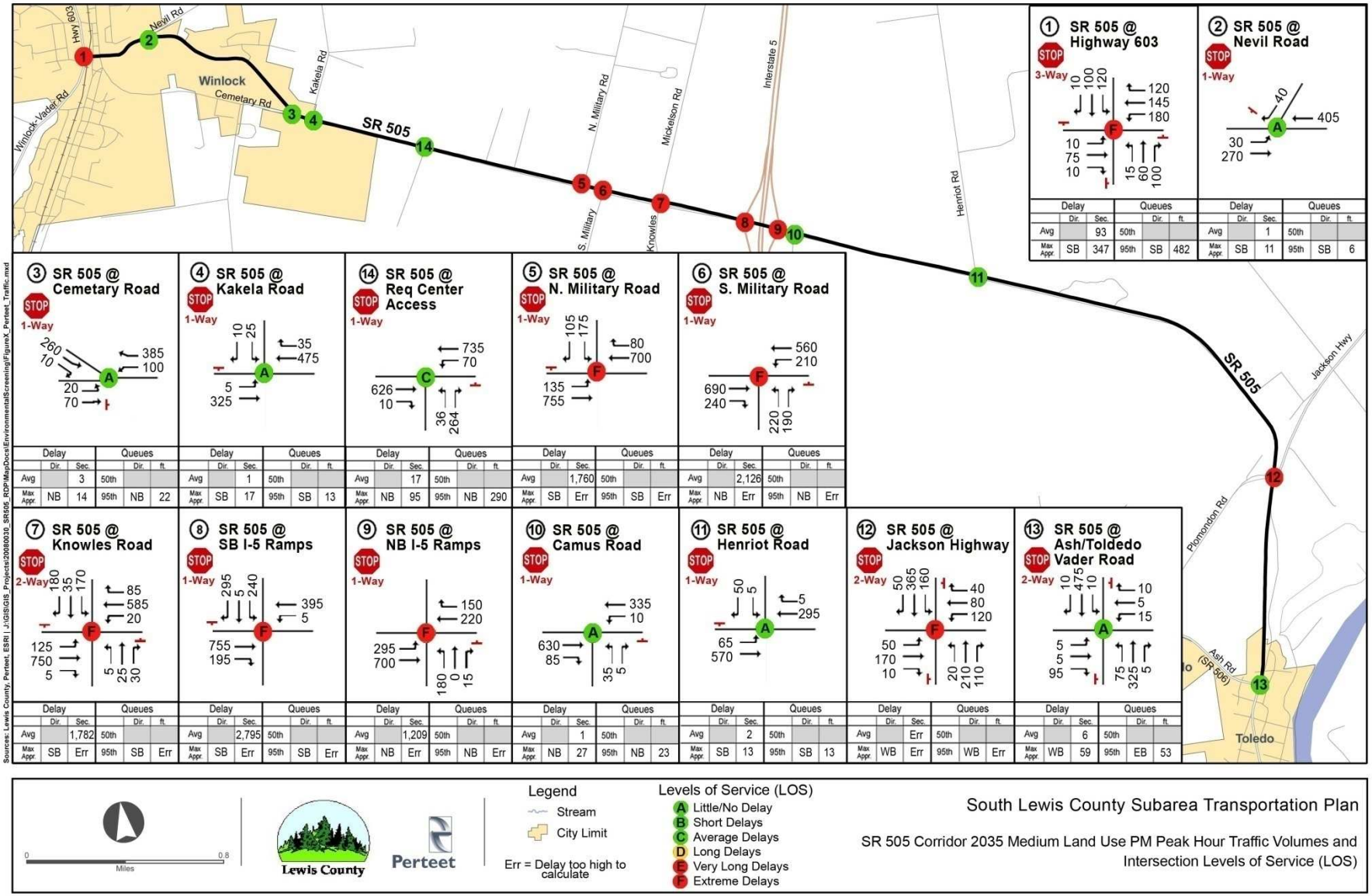
Subarea 2035 Conditions – SR 505 PM Segment Volume-Capacity

Segment	LLU	MLU	HLU
SR 603 to Nevil	0.39	0.39	0.55
Nevil to Cemetary Road	0.36	0.38	0.51
Cemetary Road to Kakela	0.44	0.45	0.59
Kakela to REQ Access	0.43	0.48	0.60
REQ Access to N. Military	0.94	0.94	1.11
N. Military to S. Military	0.90	0.95	1.17
S. Military to Knowles	0.86	0.92	1.38
Knowles to SB I-5 Ramp	0.89	0.91	1.36
SB I-5 Ramp to NB I5 Ramps	0.72	0.78	1.38
NB I5 Ramps to Camus	0.53	0.60	1.42
Camus to Henriot	0.49	0.54	1.06
Henriot to Jackson Highway	0.43	0.49	0.85
Jackson Highway to Ash	0.46	0.46	0.67

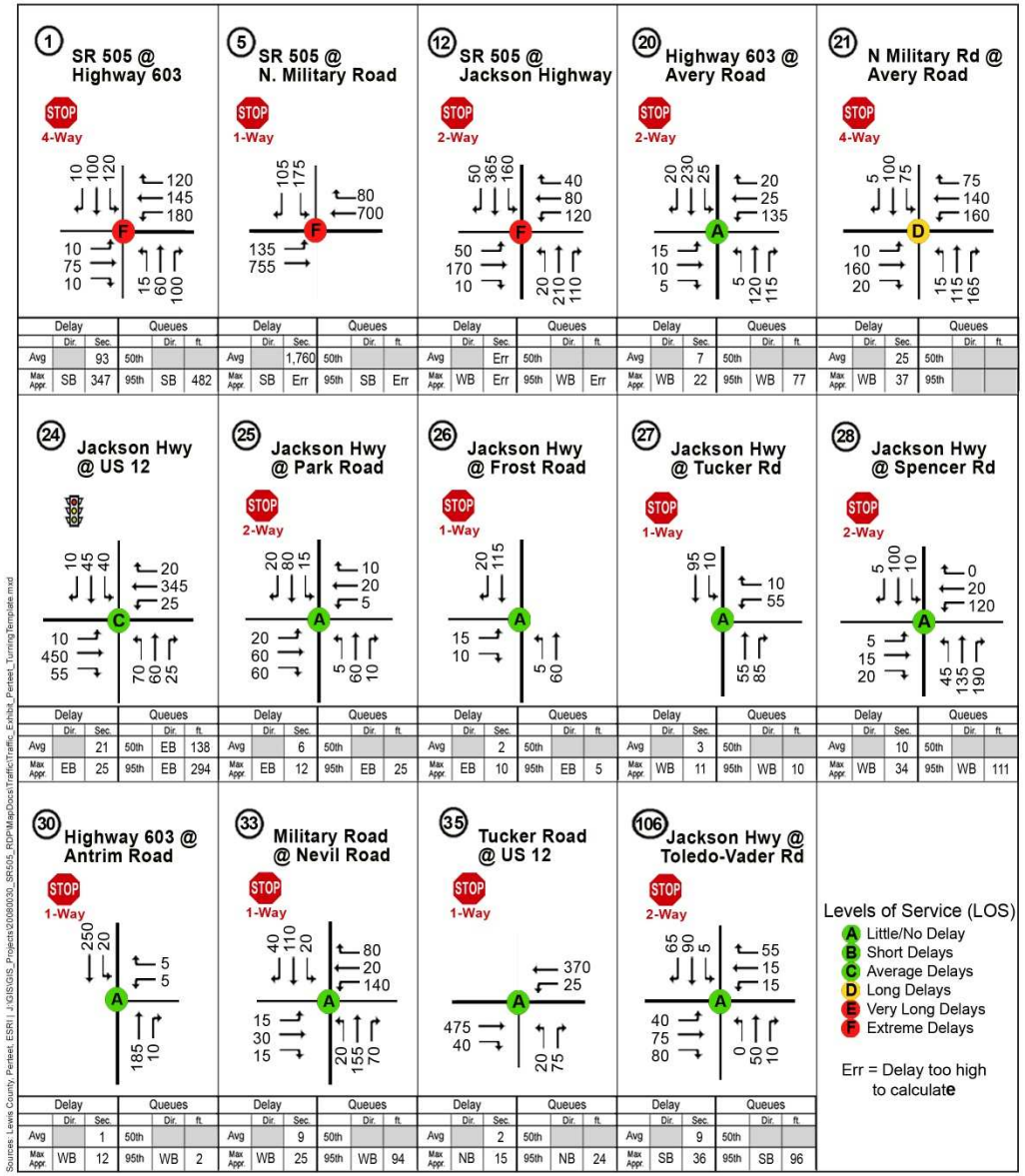
Subarea 2035 Conditions – Subarea Arterials PM Segment Volume-Capacity

Segment		2008	2035 MLU
Highway 603	Avery Rd to Antrim Rd	**0.15**	**0.32**
	Antrim Rd to SR 505	**0.14**	**0.26**
N. Military Road	Avery Rd to Nevil Rd	**0.12**	**0.40**
	Nevil Rd to SR 505	**0.08**	**0.41**
Jackson Highway	US 12 to Park Rd	**0.09**	**0.15**
	Park Rd to Frost Rd	**0.06**	**0.13**
	Frost Rd to Tucker Rd	**0.06**	**0.11**
	Tucker Rd to Spencer Rd	**0.10**	**0.16**
	Spencer Rd to SR 505	**0.17**	**0.39**
	SR 505 to Toledo-Vader Rd	**0.19**	**0.21**
Tucker Road	US 12 to Jackson Highway	**0.08**	**0.13**

Subarea 2035 Conditions – SR 505 PM Intersection LOS



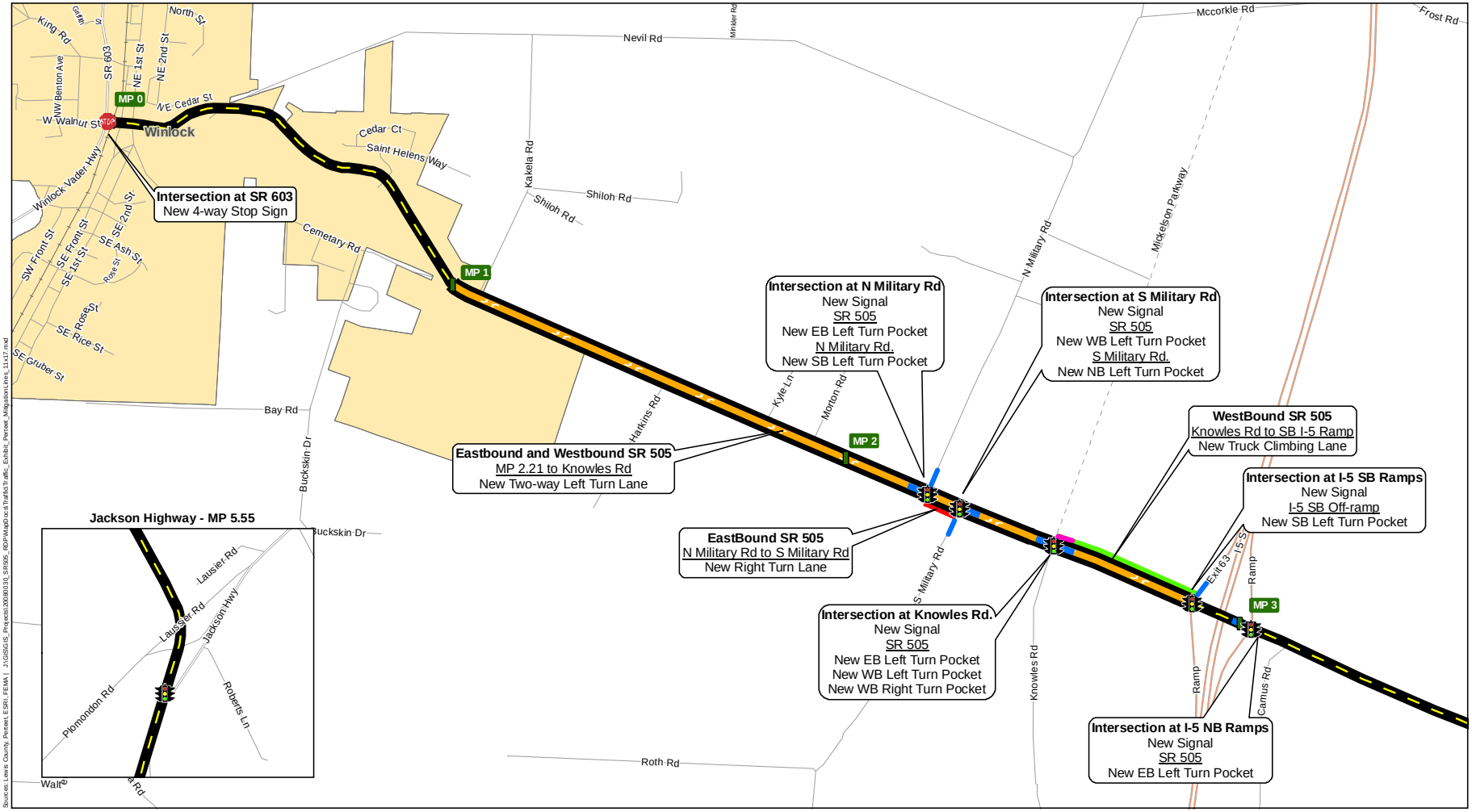
Subarea 2035 Conditions – Subarea Arterials Intersection PM LOS



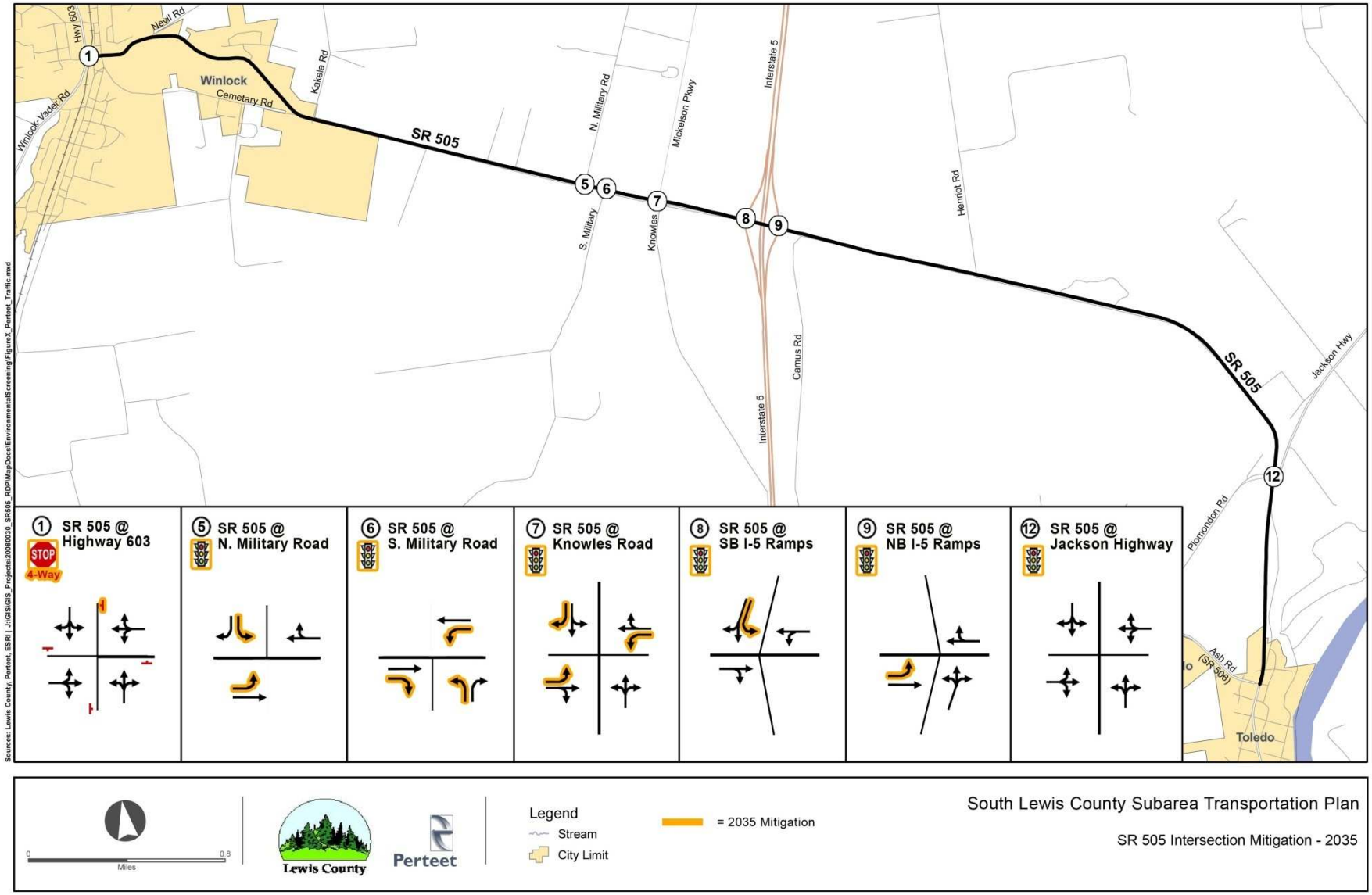
Subarea 2035 Conditions – Draft Mitigation

- SR 505
  - 3 lanes from I-5 to Cemetary Road
  - Truck Climbing Lane from I-5 to Knowles (4-lane segment)
  - Intersection Treatments
    - Signals
    - Turn pockets
- Other Arterials
  - Signal at US-12/I-5 SB ramps intersection

Subarea 2035 Conditions – SR 505 Draft Mitigation



Subarea 2035 Conditions – SR 505 Draft Intersection Mitigation



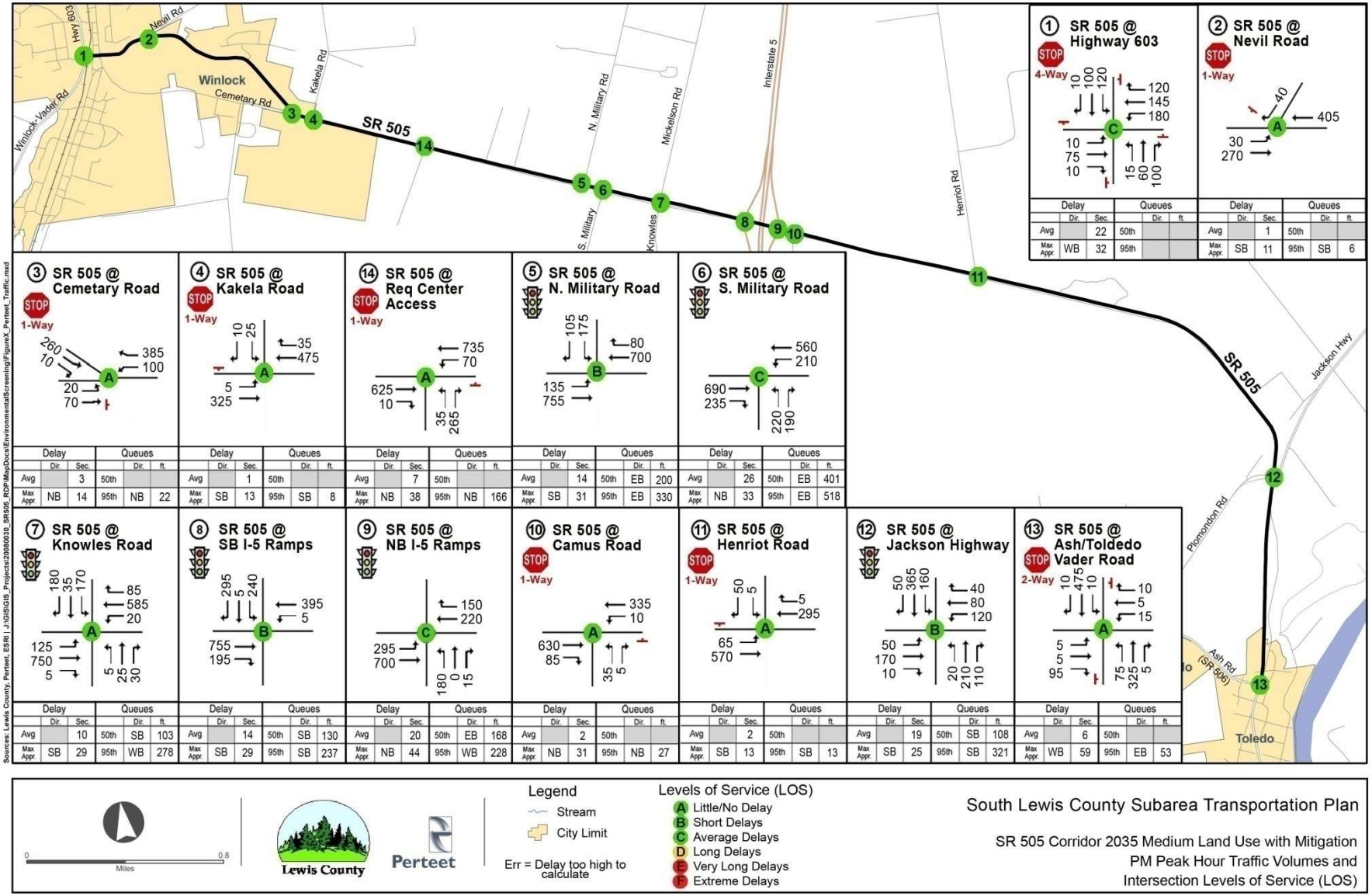
SR 505 with Mitigation – 2035 Conditions

- Intersection LOS
  - D or better
- Segment LOS
  - D or better
- Traffic Simulation (VISSIM)
  - 2035 Without Mitigation
  - 2035 With Mitigation

SR 505 with Mitigation – 2035 PM Segment Volume-Capacity

Segment	MLU Mitigated
SR 603 to Nevil	**0.39**
Nevil to Cemetary Road	**0.38**
Cemetary Road to Kakela	**0.36**
Kakela to REQ Access	**0.38**
REQ Access to N. Military	**0.75**
N. Military to S. Military	**0.54**
S. Military to Knowles	**0.73**
Knowles to SB I-5 Ramp	**0.52**
SB I-5 Ramp to NB I5 Ramps	**0.78**
NB I5 Ramps to Camus	**0.60**
Camus to Henriot	**0.54**
Henriot to Jackson Highway	**0.49**
Jackson Highway to Ash	**0.46**

SR 505 with Mitigation – 2035 PM Intersection LOS



Intersection	Delay Avg Dir.	Delay Avg Sec.	Delay Max Appr. Dir.	Delay Max Appr. Sec.	Queues 50th Dir.	Queues 50th ft.	Queues 95th Dir.	Queues 95th ft.
1 SR 505 @ Highway 603		22	WB	32				
2 SR 505 @ Nevil Road		1	SB	11			SB	6
3 SR 505 @ Cemetary Road		3	NB	14			NB	22
4 SR 505 @ Kakela Road		1	SB	13			SB	8
14 SR 505 @ Req Center Access		7	NB	38			NB	166
5 SR 505 @ N. Military Road		14	SB	31	EB	200	EB	330
6 SR 505 @ S. Military Road		26	NB	33	EB	401	EB	518
7 SR 505 @ Knowles Road		10	SB	29	SB	103	WB	278
8 SR 505 @ SB I-5 Ramps		14	SB	29	SB	130	SB	237
9 SR 505 @ NB I-5 Ramps		20	NB	44	EB	168	WB	228
10 SR 505 @ Camus Road		2	NB	31			NB	27
11 SR 505 @ Henriot Road		2	SB	13			SB	13
12 SR 505 @ Jackson Highway		19	SB	25	SB	108	SB	321
13 SR 505 @ Ash/Toldedo Vader Road		6	WB	59			EB	53

2035 PM Traffic Simulation – SR 505 without Mitigation

2035 PM Traffic Simulation – SR 505 with Mitigation

Mitigation Strategies

- SEPA
- Transportation Benefit Districts (TBDs)
- Road Improvement Districts (RIDs)
- Impact Fees

Next Steps

- Analyze 2014 and 2020 land use
- Develop mitigation for 2014 and 2020
- Finalize Mitigation for 2014, 2020 and 2035
- Planning level costs for mitigation
- Apply costs to the preferred mitigation strategy

Questions?