DE 8 Concept Plan and Operations Study

Dover Safety Advisory and Transportation Committee

October 23, 2007

Dover/Kent County MPO
Metropolitan Planning Organization

ATTACHMENT #1
SA&T Committee Meeting of 10/23/2007

Purpose

- Develop a concept plan describing the aesthetic qualities of the corridor as a gateway to Dover
- Analyze and recommend improvements to address current and future operational problems
- Create an action plan to address future growth in the corridor and the associated transportation impacts.
- Develop a document that DelDOT can use to start the project development process for implementing recommendations

Dover/Kent County MPO
Metropolitan Planning Organization

Study Limits



Dover/Kent County MPO
Metropolitan Planning Organization

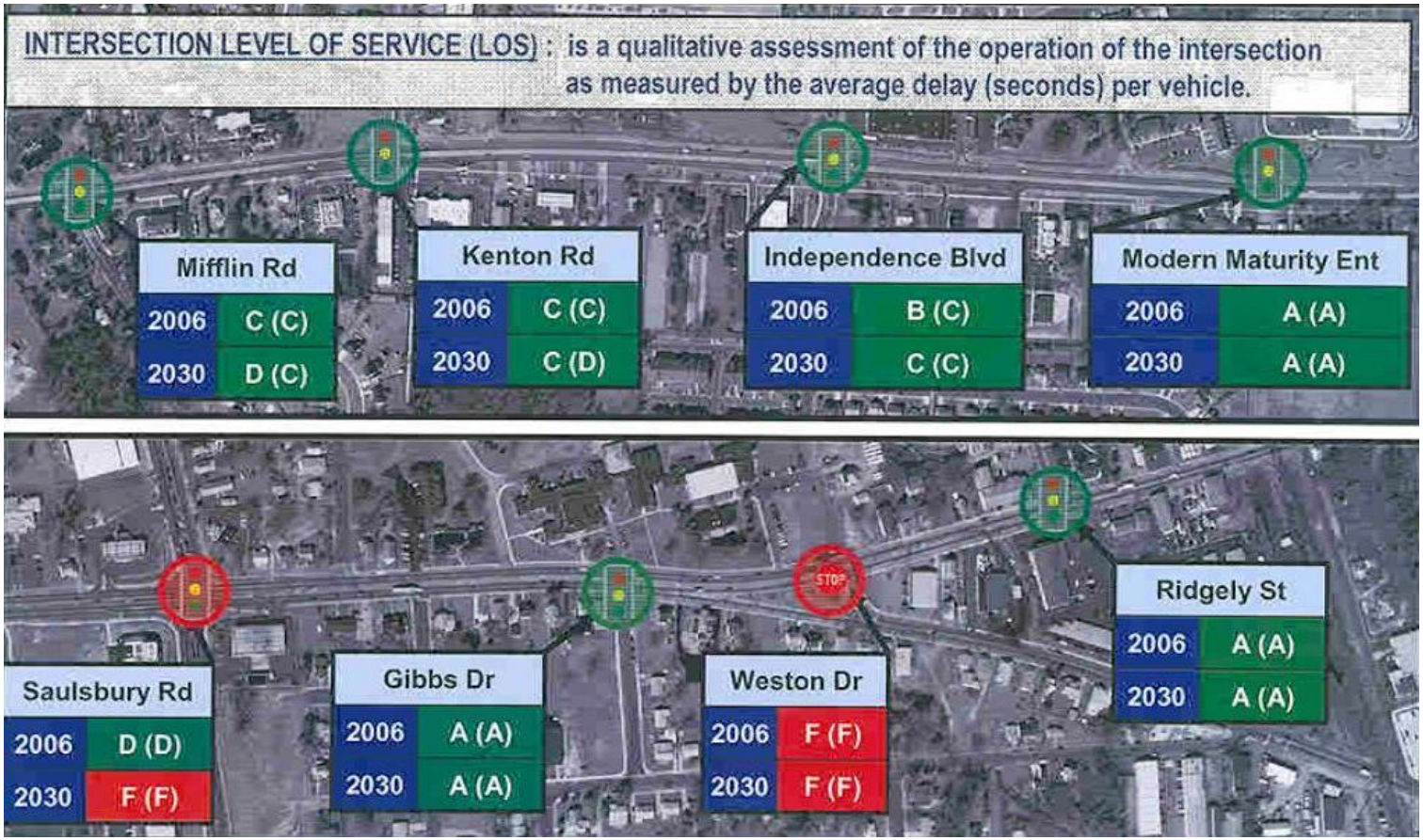
Methodology

- Establish Existing Conditions
- Conduct Traffic Analysis
- Develop a Purpose and Need Statement
- Develop Concepts and Alternatives
- Prepare a Technical Memorandum

Steps Completed to Date

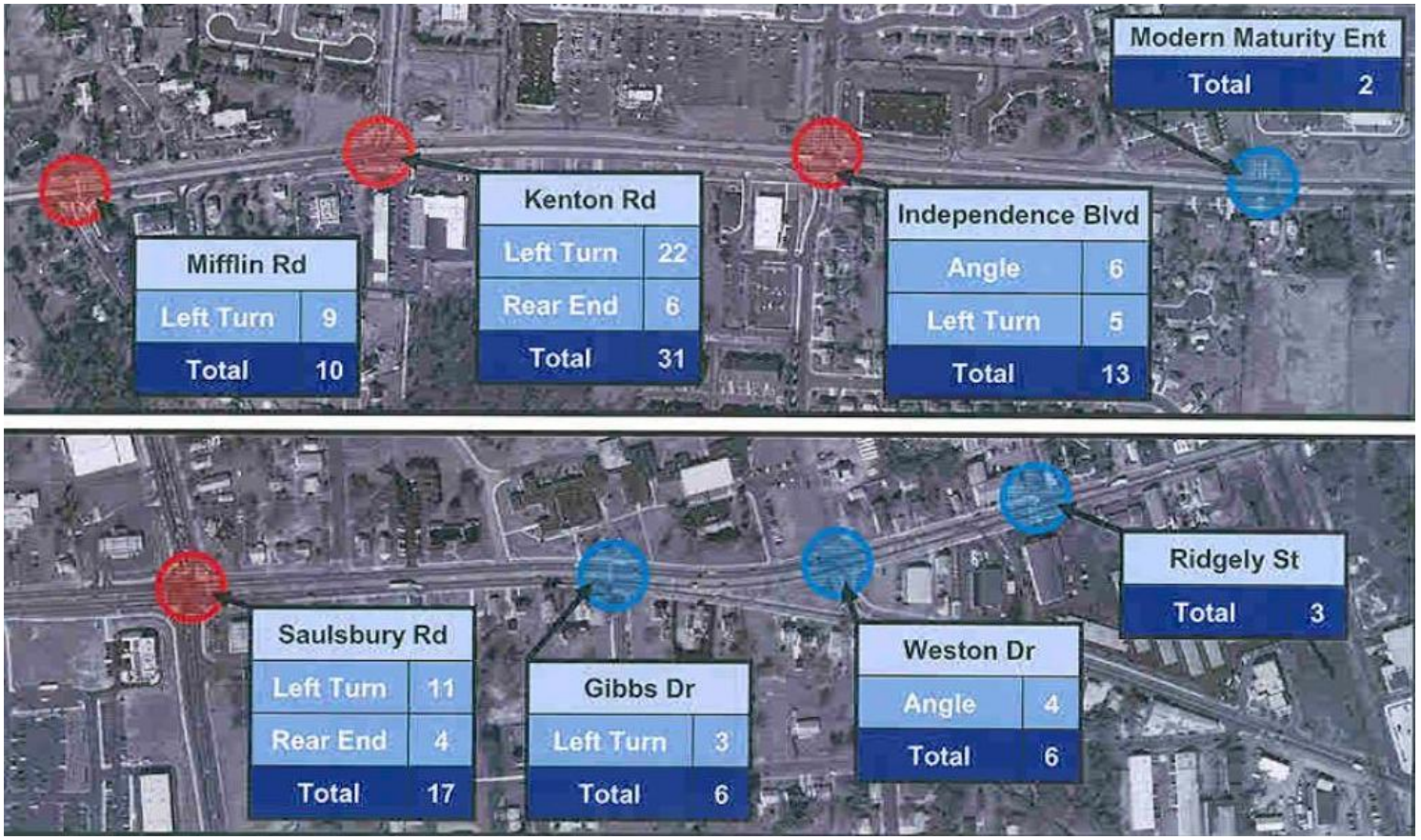
- Establish Existing Conditions – Data Collection
  - Traffic Counts
  - Transit Ridership
  - Crash Data
  - Environmental Resources
  - Cultural Resources
  - Land Use Inventory

Traffic Analysis



Dover/Kent County MPO
Metropolitan Planning Organization

Crash Analysis



Dover/Kent County MPO
Metropolitan Planning Organization

Transit Needs

Public Transit Routes

- DART Routes 100, 101, 102
- Each route is a connector to the Water St Transfer Center
- Headway is thirty minutes for each route



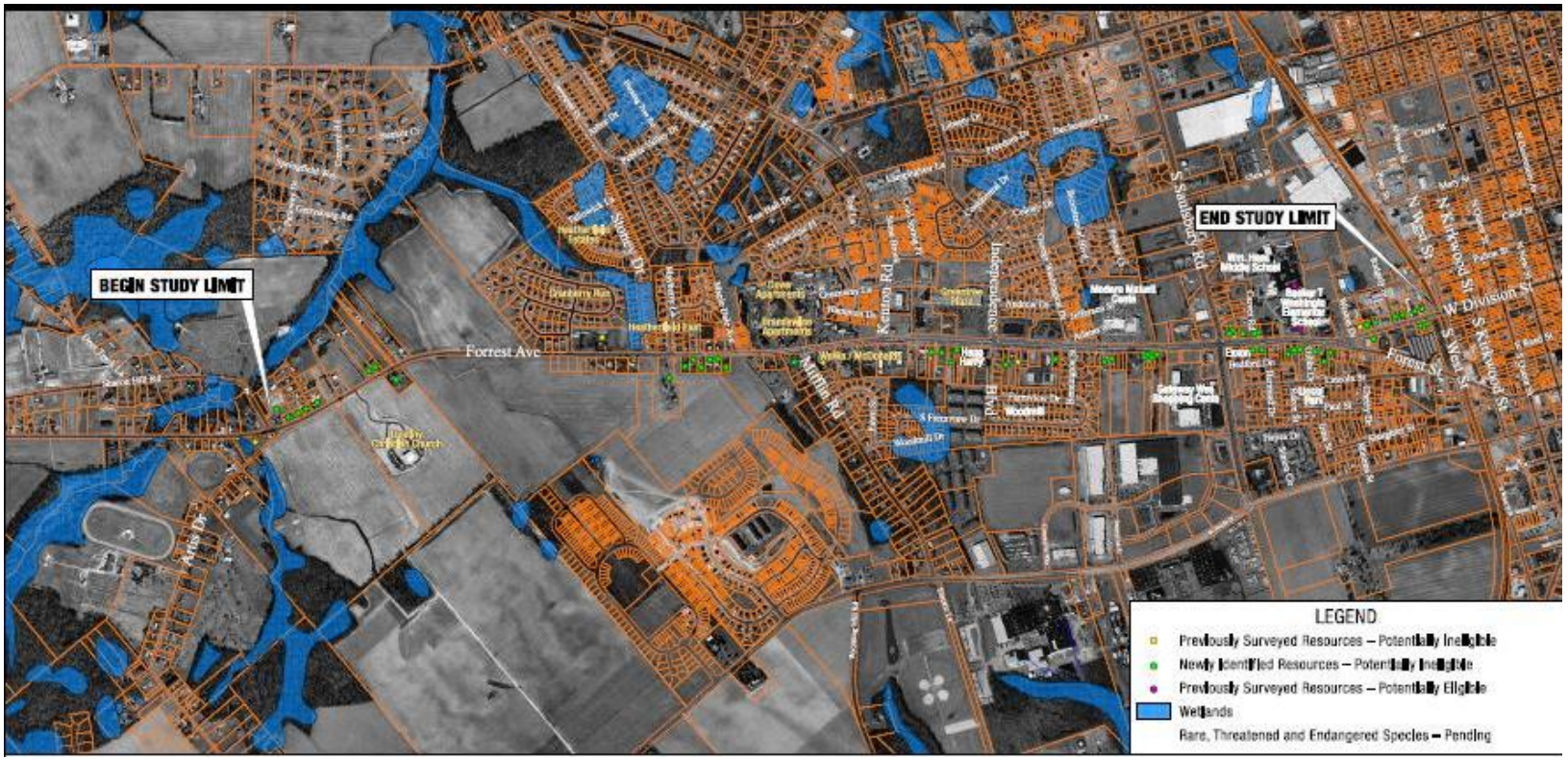
Bus Stop Facilities

- Most of the bus stops have no bus pad or shelter
- Need additional bus shelters and benches
- Upgrade transit stops with standard concrete pads



Dover/Kent County MPO
Metropolitan Planning Organization

Cultural Resources



Dover/Kent County MPO
Metropolitan Planning Organization

Future Land Development



Dover/Kent County MPO
Metropolitan Planning Organization

Future Traffic Analysis

Signalized Intersection	Output Type	Control Delay & LOS																	
		2030 w/New Dev-No Build				2030 Improvement Alternative 1*				2030 Improvement Alternative 1a*				2030 Improvement Alternative 1b*				2030 Improvement Alternative 2			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Mifflin Road	HCM	40.9	D	37.8	D	34.6	C	33.5	C	32.9	C	31.4	C	32.9	C	31.4	C	32.1	C	30.4	C
Kenton Road	HCM	34.5	C	57.1	E	40.6	D	52.2	D	36.5	D	54.9	D	36.9	D	54.5	D	33.4	C	47.0	D
Independence Boulevard	HCM	25.2	C	24.6	C	28.3	C	32.9	C	33.0	C	30.9	C	32.7	C	30.1	C	43.4	D	35.3	D
Modern Maturity	HCM	5.4	A	8.8	A	14.2	B	38.7	D	11.2	B	38.2	D	14.0	B	33.3	D	6.5	A	12.1	B
Saulsbury Road	HCM	88.5	F	173.4	F	79.4	E	98.5	F	54.0	D	63.0	E	70.3	E	83.4	F	49.2	D	58.5	E
Gibbs Drive	HCM	8.6	A	7.9	A	19.9	B	14.9	B	19.9	B	14.9	B	19.9	B	14.9	B	20.0	B	18.8	B
Weston Drive/ Forrest Street	HCM/ SIDRA	N/A-Unsig	N/A-Unsig	N/A-Unsig	N/A-Unsig	11.8	B	30.0	C	11.8	B	30.0	C	11.8	B	30.0	C	3.4	A	49.9	D
Ridgely Street	HCM	4.2	A	6.8	A	4.2	A	5.6	A	4.2	A	5.6	A	4.2	A	5.6	A	4.8	A	6.4	A

*Improvement Alt 1 indiates existing geometry at DE Route 8 & Saulsbury Road with Prot/Proh. LT phasing on DE Route 8, Alt 1a indicates 4-lane Saulsbury Road cross-section with Prot./Proh. LT phasing on all approaches, and Alt B indicates existing geometry with Prot/Perm. phasing on all approaches

LOS: Level of Service is a method of describing how well traffic is moving through an intersection based on motorist delay.

Dover/Kent County MPO
Metropolitan Planning Organization

Alternatives Analysis

- **Improvements included in all alternatives:**
  - Realign Artis Dr. to 90º intersection
  - Two access points to proposed high school
  - New road connectors: to Hazlettville Rd., Artis Dr. and Chestnut Grove Rd
  - Change to protected-only left turn signals
  - Add eastbound right turn storage lane at Mifflin Rd.
  - Add on-road bike lane through all intersections
  - Add six foot shoulders from Saulsbury Rd. to Gibbs Dr.
  - Install cross walks, handicap ramps and pedestrian signals at all signalized intersections
  - Improve existing shared use path on north side of DE 8 and extend from Kenton to Mifflin Rd.
  - New connection McDonald's and Arby's
  - Add outside shoulders on DE 8 from Mifflin to Saulsbury
  - Incorporate landscaping and streetscaping elements into p

Dover/Kent County MPO
Metropolitan Planning Organization

Alternatives Analysis

- **Improvements Considered – Two Alternatives:**
  - Shared-use path vs. sidewalks from Artis Dr. to Mifflin Rd.
  - Landscaped median vs. center turn lane from west of Mifflin Rd to Saulsbury Rd.
  - Widening the Kenton Rd. intersection vs. connector to Independence Blvd.
  - Widening the Saulsbury Rd. intersection vs. additional connector roads on the south side of DE 8
  - Roundabout vs. traffic signal at DE 8 and Weston Dr.
  - Do nothing (no-build)

Dover/Kent County MPO
Metropolitan Planning Organization

Preferred Alternative

- All common improvements
- Reconfigure entrance to Brandywine Apartments
- Pedestrian crossing at Forest Street
- Shared-use path from Artis Dr. to Mifflin Rd.
- Landscaped median from Mifflin Rd to Saulsbury Rd.
- Connector Kenton Rd. to Independence Blvd.
- Widening the Saulsbury Rd. intersection and additional connector roads on the south side of DE 8
- Traffic signal at DE 8 and Weston Dr

Implementation Plan

- Develop Memorandum of Understanding between Dover, DelDOT and Kent County
- Develop Early Action Contracts
- Submit Projects to DelDOT for Funding

Next Steps

- Agency and Public Review
- Incorporate Comments and Changes
- Issue Report
- Begin Implementation