Welcome

to the

ELKTON ROAD PLANNING STUDY

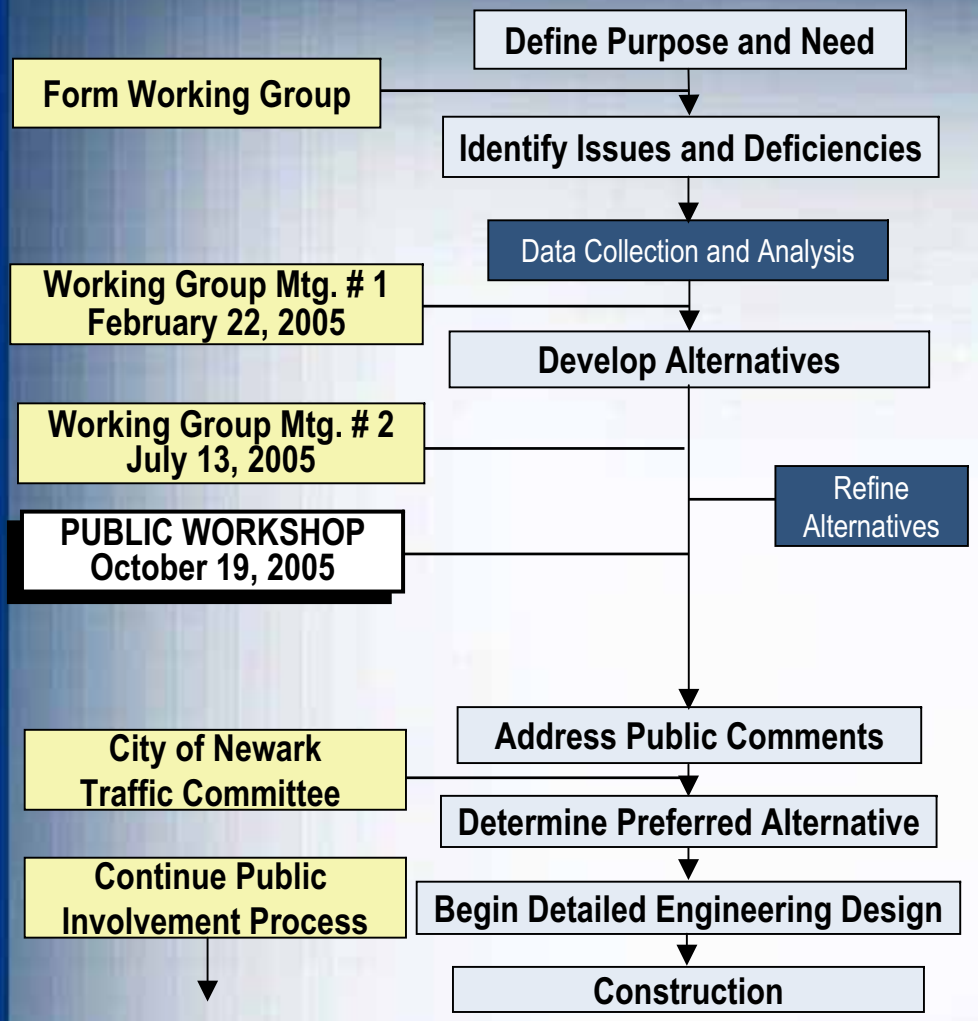
Maryland State Line To Delaware Avenue

Public Workshop

October 19, 2005

JMT
JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®

Project Development Process



List of Working Group Members

Roy Lopata - *Newark Planning Department*
Gerald Conway – *Newark Police Department*
Richard Armitage - *University of Delaware*
Eric Schwab - *Town Court and Park Place*
Tim Thompson - *The Trap Restaurant*
Willett Kempton - *Newark Bicycle Committee*
Nancy Rich - *Beverley Road*
Jill Bennett-Gaieski - *Orchard Road*
Doug Tuttle - *Devon*
Christopher J. Heck
DuPont Stine-Haskell Research Center
Stephen D. Nash
DuPont Stine-Haskell Research Center
Heather Dunigan - *WILMAPCO*
Gregory Meece - *Newark Charter School*
Marc Cote´ - *DelDOT*
Tom Brooks - *DelDOT*

Project Goals

- Pavement Reconstruction
- Capacity and Operational Improvements
- Safety Improvements
- Bicycle and Pedestrian Improvements
- Transit Facilities Improvements

Roadway Characteristics

Area 1 - Maryland State Line to SR 4

- 4 lane divided with 40 to 50 foot grass median
- 10 Foot Wide Shoulder on Both Sides
- Speed Limit – 50 mph
- Current Traffic Volume – 43,000 AADT

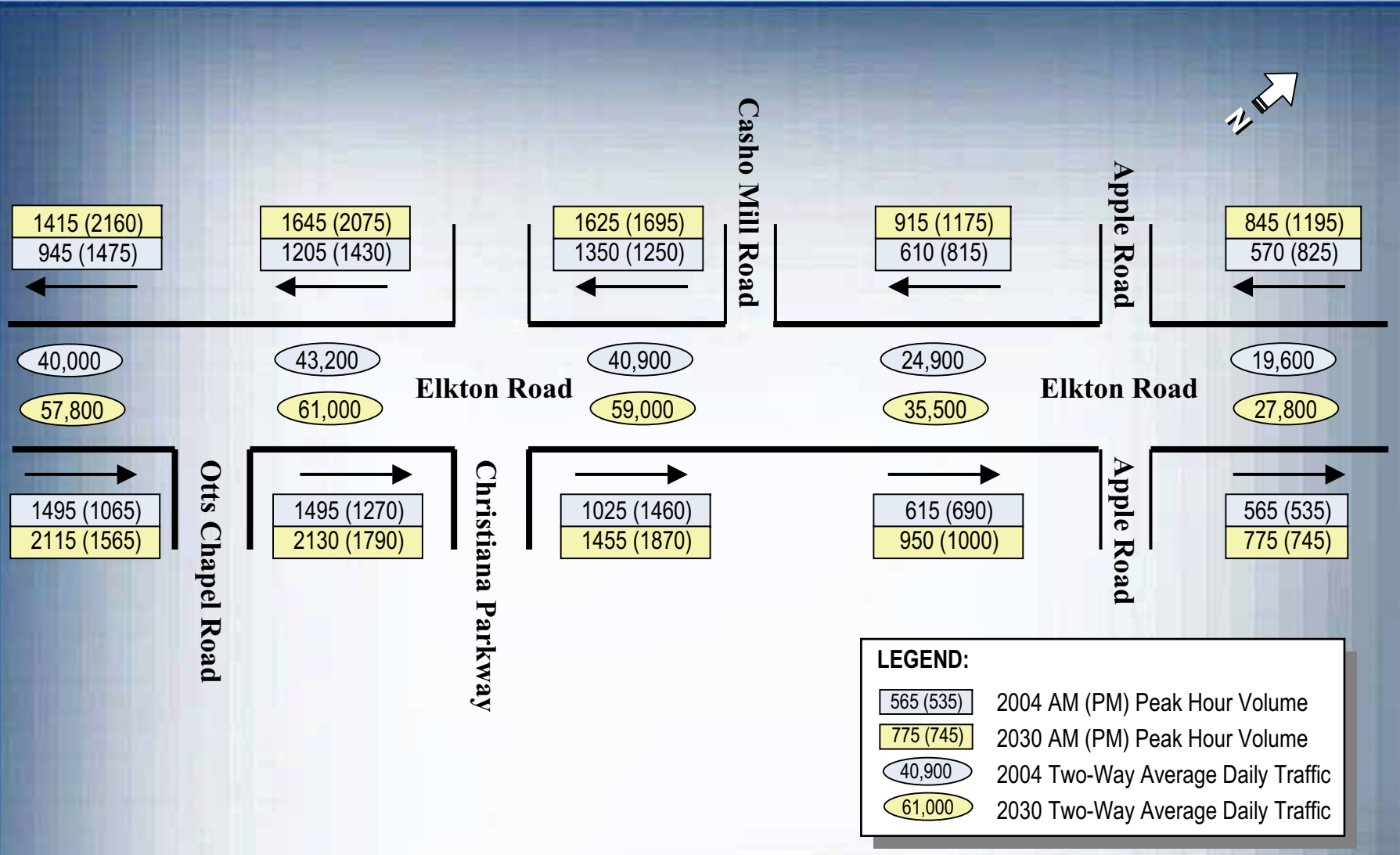
Area 2 - SR 4 to West Park Place

- 4 lane divided – 15 feet wide median
- 8~12 foot wide shoulder/bike path on WB Elkton Road
- Speed Limit – 35 ~ 40 mph
- Current Traffic Volume – 24,000 AADT

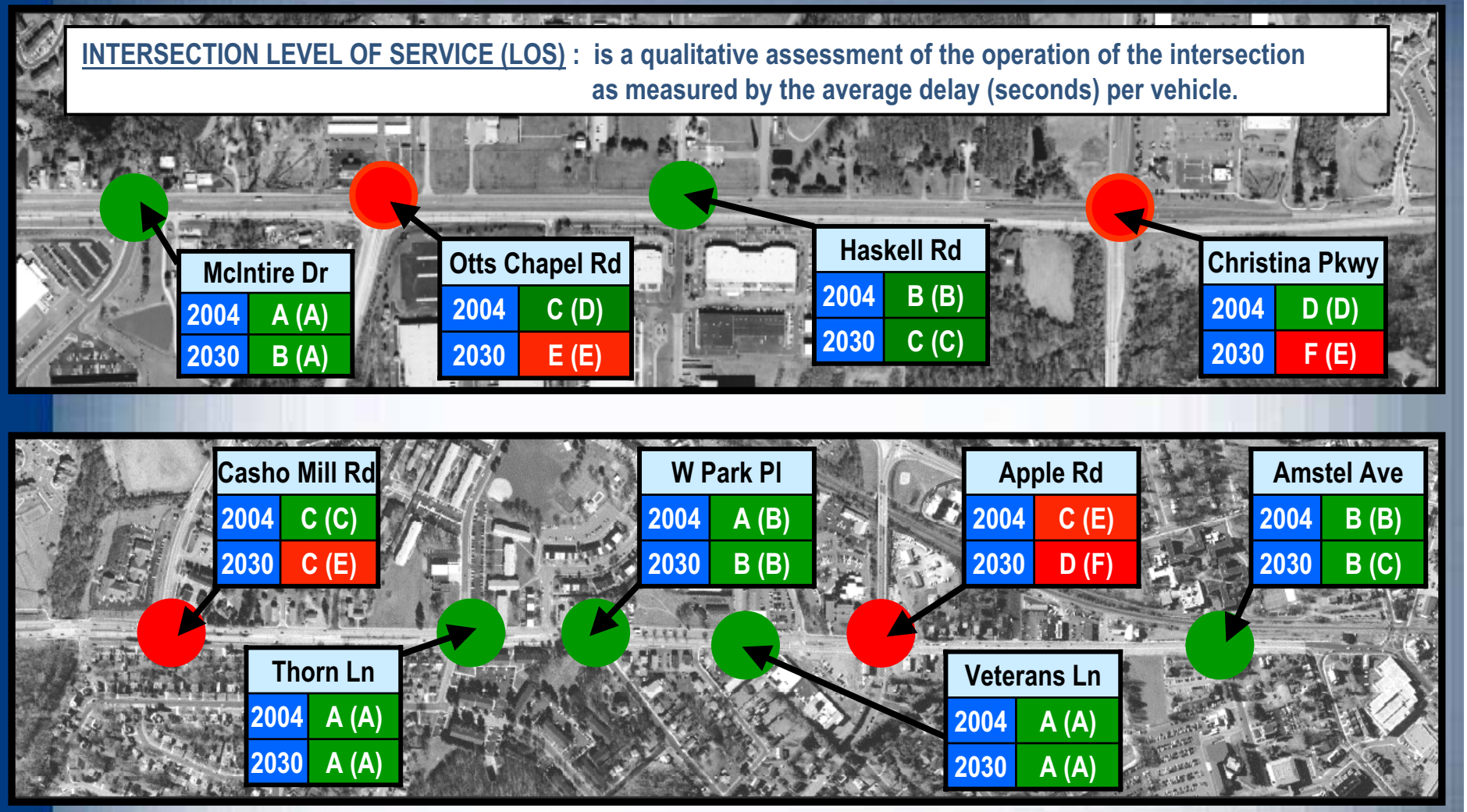
Area 3 – West Park Place to Delaware Avenue

- 4 lane un-divided
- No shoulders
- Speed Limit – 25 ~ 35 mph
- Current Traffic Volume - 19,000 AADT

Study Area Traffic Volume



Summary of Capacity Analysis

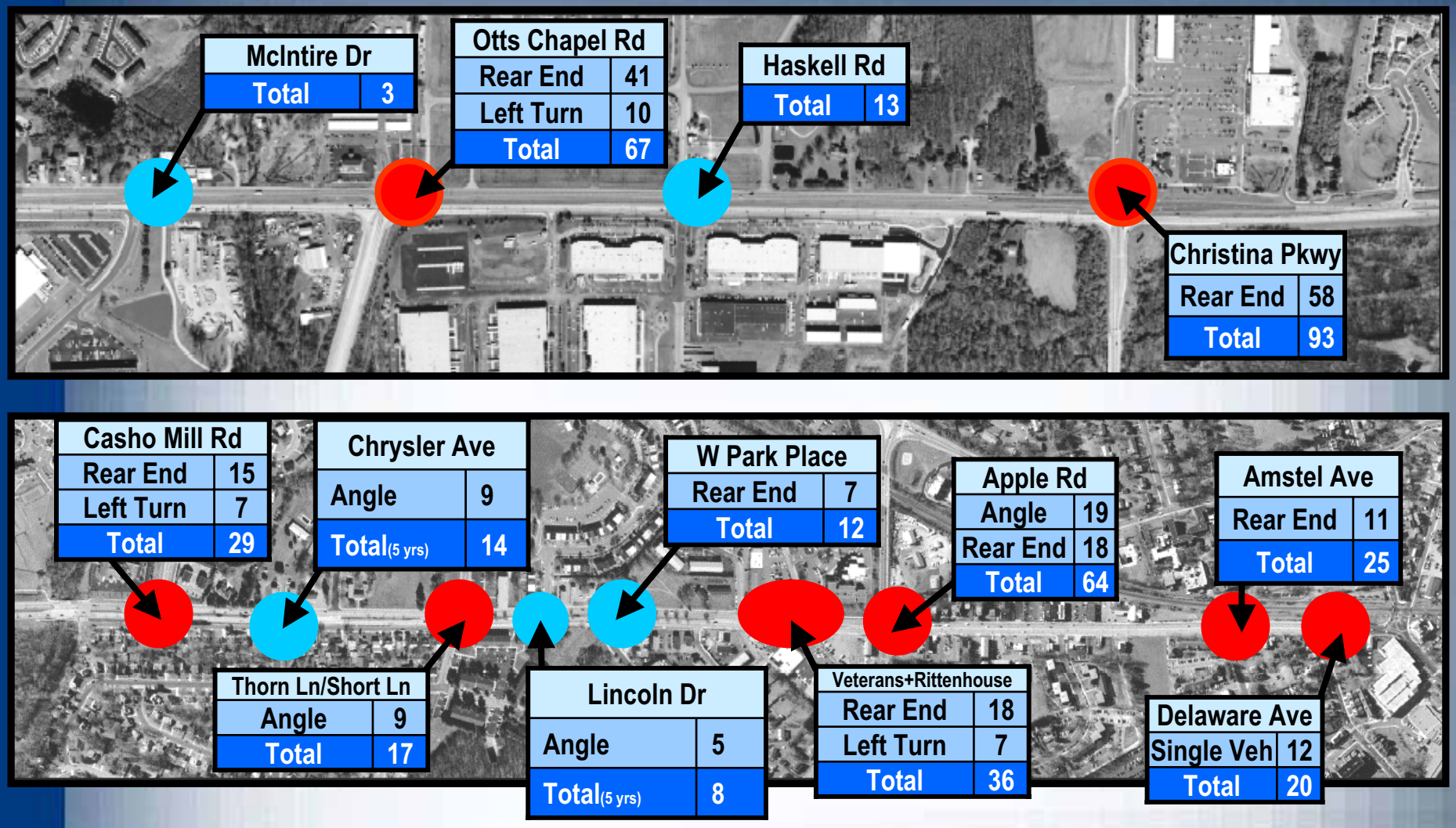


LOS Table for Signalized Intersections

INTERSECTION LEVEL OF SERVICE (LOS) : is a qualitative assessment of the operation of the intersection as measured by the average delay (seconds) per vehicle.

Control Delay	
LOS	per vehicle (sec)
A	≤ 10
B	>10 - 20
C	>20 - 35
D	>35 - 55
E	>55 - 80
F	>80

Summary of Safety Analysis



Total Number of Crashes from May, 2001 through April, 2004

Summary of Safety Analysis

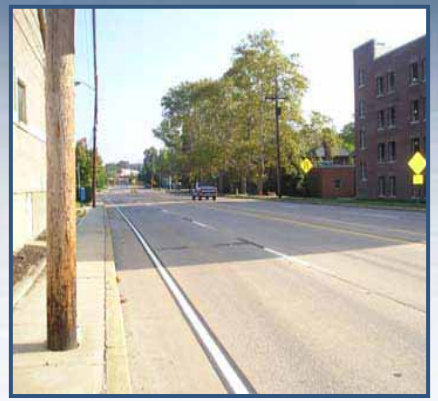
- Reviewed 438 crash reports over 3 year period
- Crash Rate is higher than statewide average
- Most crashes (47%) are rear end type
- 30% were left turn and angle
- No fatalities during this time period

  (However, before the reported crash period, there were 2 fatalities at Amstel Avenue and 1 fatality at Otts Chapel Road. All three were pedestrian/bicycle related.)

Pedestrian and Bicycle Needs

Maryland State Line to SR 4

- No continuous sidewalks
- Shoulders used for bicycle traffic
- Ramps are not ADA compliant



SR 4 to West Park Place

- 4-10 foot discontinuous bike lane on eastbound side
- 8~12 foot continuous bike lane on westbound side
- Sidewalk everywhere except south of Elkton Road from SR 4 to Gravenor Lane
- Ramps are not ADA compliant

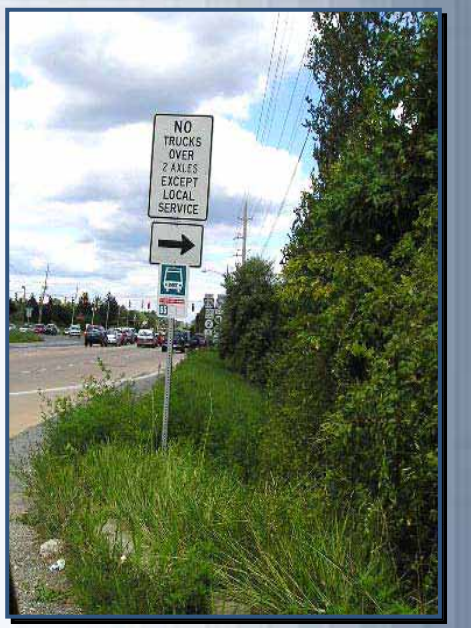
West Park Place to Delaware Avenue

- No eastbound bike lane east of Murray Road
- 8 foot bike lane on westbound side from Apple
- Road to West Park Place
- Continuous sidewalks on both sides
- Utility poles within sidewalk
- Multiple entrances hinder usage
- High pedestrian and bicycle activities
- Ramps are not ADA compliant

Transit Needs

Public Transit Route

- DART Route 6, 16, 33,39, 65
- Unicity Bus System Route N-1 and N-3
- University of Delaware Bus System: several routes



Bus Stop facilities

- Most of the bus stops have no bus pad or shelter
- Need for additional bus shelters

Area 1 - Maryland State Line to SR4

Alternative 1

Description
- Mainline - four lane section
- Off road bicycle/pedestrian path
- Double WB left turn lane at Otts Chapel Road
- Crosswalks and pedestrian signals
- On road bike lane

Pros
- No change in existing footprint of Elkton Road
- Improved bicycle/pedestrian mobility and Safety

Cons
- Unsatisfactory Level of Service (LOS) at SR 4 intersection
- Long queue on EB Elkton Road at Haskell Road (AM Peak)
- Long queue on NB Otts Chapel Road

Cost: $30.3 million

Alternative 2

Description
- Mainline - six lane section from Otts Chapel Road to east of SR 4
- Off road bicycle/pedestrian path
- Double WB left turn lane at Otts Chapel Rd.
- Crosswalks and pedestrian signals
- On road bike lane
- Free flow right turn @ NB Otts Chapel

Pros
- Satisfactory Level of Service (LOS) at all intersections
- Reduction in EB Elkton Road queue length at Otts Chapel Road, Haskell Road and SR 4 intersection

Cons
- Greater right of way impact than other Alternatives

☑ *Preferred Alternative of Working Group*

Cost: $35.5 million

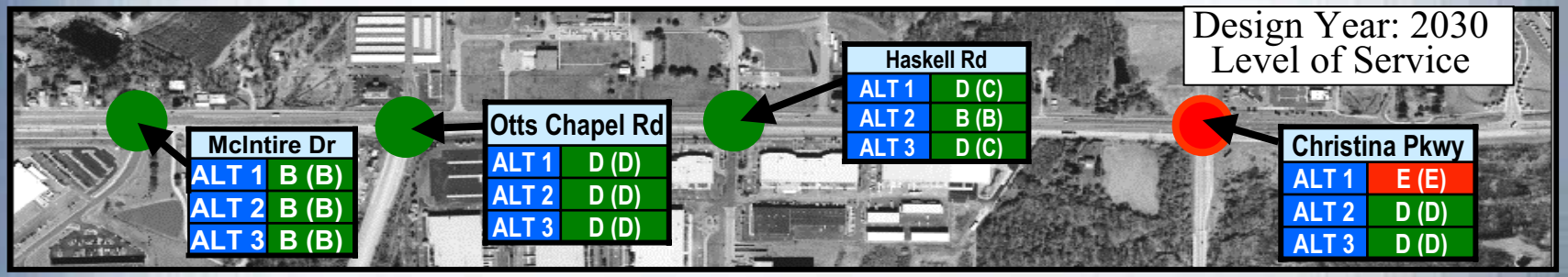
Alternative 3

Description
- Mainline - six lane section at SR 4 Intersection
- Crosswalks and pedestrian signals
- On road bike lane
- Off road bicycle/pedestrian path
- Double WB left turn lane at Otts Chapel Road

Pros
- Satisfactory Level of Service (LOS) at all intersections
- Minimum impact on median and right of way encroachment

Cons
- Long queues on NB Otts Chapel Road
- Long queue on EB Elkton Road at Haskell Road (AM Peak)

Cost: $32.3 million



Area 2 - SR4 to West Park Place

Alternative 1

Description

- Mainline - four lane section
- Add SB left turn at Casho Mill Road
- Close median at Chrysler Ave./ Lincoln Drive

Pros

- Increase mobility and access into town by adding left turn at Casho Mill Road

Cons

- Unsatisfactory Level of Service (LOS) at Casho Mill Road
- Does not reduce rear end and angle crashes at Casho Mill Road
- Long queue on WB Elkton Road at Casho Mill Road

Cost: $16.8 million

Alternative 2

Description

- Mainline - four lane section
- Change phasing of signal at Casho Mill Road

Pros

- Reduce angle crashes at Casho Mill Road
- Improves capacity over existing condition

Cons

- Vehicles on Casho Mill Road SB right Turn will need to yield to pedestrians

☑ *Preferred Alternative of Working Group*

Cost: $16.8 million

Alternative 3

Description

- Same as Alternative 2
- Double EB left turn lane at Casho Mill Road

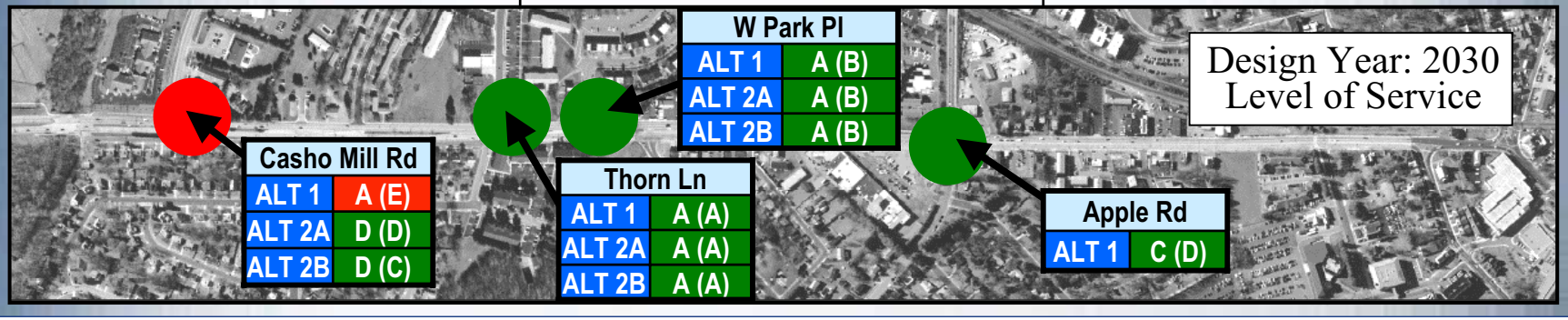
Pros

- Reduce the length of the EB left turn lane at Casho Mill Road
- Reduce angle crashes at Casho Mill Road

Cons

- Right of way and utility impacts at Casho Mill Road / Elkton road
- Short weaving distance on NB Casho Mill Road
- Shift of EB lanes into buffer along Gravenor Road will impact landscape screen
- Longer queue on NB Casho Mill Road at railroad crossing underpass

Cost: $17.2 million



Area 3 – W. Park Place to Delaware Ave.

Alternative 1

Description
- Mainline – three lane section with center turn lane from Apple Road to Amstel Ave.
- Reduce access points/prohibit WB left turn at Rittenhouse Road intersection
- SB and WB right turn lanes added to Apple Road/Elkton Road intersection

Pros
- Easy access to businesses
- Continuous 5' – 8' wide bike lane
- Wide median for pedestrian refuge provided at Amstel Road
- Travel speeds will be reduced
- Able to convert to 4-lane roadway in future if capacity needed

Cons
- Reduced capacity of Elkton Road between Apple Road and Amstel Avenue
- Long queue on westbound Elkton Road approaching Amstel Avenue intersection

☑ *Preferred Alternative of Working Group*

Cost: $13.0 million

Alternative 2

Description
- Mainline – two lane section with median and left turn lane from Apple Rd. to Amstel Ave.
- Reduce access points / prohibit WB left turn at Rittenhouse Road cross over
- SB and WB right turn lanes added to Apple Road /Elkton Road intersection

Pros
- Continuous 5' - 8' bike lane
- Wide median for pedestrian refuge provided at Amstel Road
- Increase aesthetics by planting trees/shrubs on median islands
- Travel speeds will be reduced

Cons
- Reduce capacity of Elkton Road between Apple Road and Amstel Ave.
- Limited access to businesses – cannot U-turn between Apple Road and Amstel Ave.
- Long queue on WB Elkton Road approaching Amstel Ave. intersection

Cost: $12.8 million

Alternative 3

Description
- Mainline-four lane undivided (same as existing) eliminating 4' flush median between Apple Road and Amstel Ave.
- Provide 5' bike lane
- Reduce access points/prohibit WB left turn at Rittenhouse Road cross over
- SB and WB right turn lanes added to Apple Road/Elkton Road intersection

Pros
- Maintain existing roadway capacity of Elkton Road
- Continuous 5' wide bike lane
- Reduction in WB Elkton Road queue at Amstel Ave. intersection
- Minimum property impact

Cons
- Limited traffic calming/pedestrian safety improvement at Amstel Rd.
- Increased potential of speeding
- Left turn access to businesses occurs from thru lanes

Cost: $12.9 million