

III. Alternates Descriptions

A. Alternatives Recommended for Detailed Study

The public was given the opportunity to provide feedback on the preliminary alternates, including interchange options, during focus group meetings on April 5, 2006 and May 24, 2006 and a Public Workshop held on June 22, 2006. Based upon public feedback, agency input, engineering traffic analysis, right-of-way impacts, and environmental impacts for each option, the viability of the alternates was evaluated and it was determined which options were to be carried forward and which option would be dropped. The following are descriptions of the mainline alternates, as well as the interchange options that will be carried forward for detailed study.

1. No-Build Alternate

The No-Build Alternate would retain the existing I-95 highway, and allow for maintenance improvements and safety upgrades. Some of the improvements and upgrades associated with the No-Build Alternate include bridge deck replacement, pavement resurfacing, traffic barrier, signing, lighting replacements and upgrades, and replacement of failing structures. There would be no increase in roadway capacity and an increase in congestion and accidents would likely occur. The No-Build option for each interchange has been retained for further study.

2. General Purpose Lanes Alternate

a. Mainline

This alternate would include additional GPLs to accommodate the projected traffic demand. Improvements would be proposed along

the mainline of I-95 from north of MD 43 to north of MD 22 and at the MD 152, MD 24, MD 543 and MD 22 interchanges.

This concept would tie four GPLs and two ETLs in each direction at New Forge Road from Section 100 into six GPLs in each direction from north of MD 43 to the MD 24 interchange. From the MD 24 interchange to the MD 543 interchange, there would be five GPLs in each direction and from the MD 543 interchange to north of MD 22, there would be four GPLs in each direction. At the northern limit of Section 200, the four GPLs would merge to tie into the existing three GPLs in each direction.

Typical Roadway Section – New Forge Road to MD 24



Typical Roadway Section – MD 24 to MD 543



Typical Roadway Section – MD 543 to MD 22



- 12' to 14' Shoulder
- General Purpose Lanes

Figure 44 – Recommended General Purpose Lanes Alternate

b. I-95/MD 152 Interchange Option 1: Diamond (*see Figure 45*)

This option would consist of a diamond interchange. Two full traffic signals would be included with this option similar to existing conditions. This option incorporates cul-de-sacs to eliminate direct access from Old Mountain Road into the interchange ramp area. The Old Mountain Road bridge over I-95 would be removed and not need to be replaced. This option could accommodate a potential park-n-ride lot within the interchange. However, a new bridge, similar to the Old Mountain Road bridge, would be constructed to provide access to the potential park-n-ride lot.

The I-95 northbound approach would consist of six lanes. A two-lane diagonal ramp would lead to MD 152 northbound and southbound. A one-lane diagonal ramp from MD 152 would merge into I-95 northbound. Six I-95 northbound lanes would continue north of the interchange.

The I-95 southbound approach would consist of six lanes. A one-lane diagonal ramp would lead to MD 152 northbound and southbound. A two-lane diagonal ramp from MD 152 would merge into I-95 southbound, south of the interchange.

Two through lanes would generally be provided on MD 152, with additional turn lanes at the interchange ramps.

Bicyclists along MD 152 will be accommodated through the interchange with 8'-0" wide shoulders. The intersections along MD 152 at the ramp junctions were developed to be compact to

limit vehicle speeds, and to include signalization for most vehicle movements through the intersections. Where free-flowing movements were unavoidable, designs were based on near minimum turning conditions in an effort to limit vehicle speeds.



- GENERAL PURPOSE LANES
- PROPOSED BRIDGE / OVERPASS
- EXISTING 106-INCH WATER MAIN
- TRAFFIC FLOW
- TRAFFIC SIGNALS
- APPROXIMATE RIGHT-OF-WAY LINE

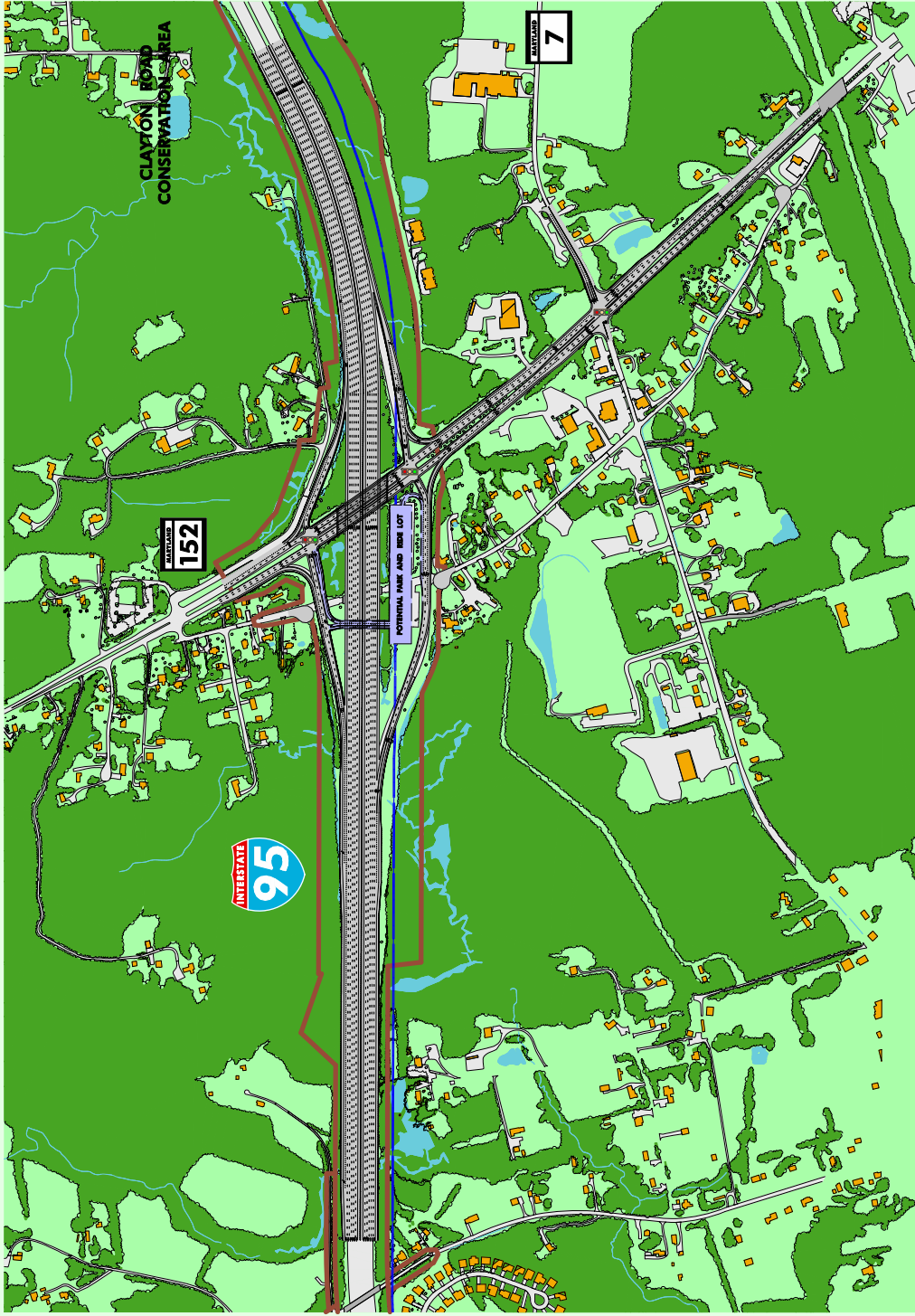


FIGURE 45 – GENERAL PURPOSE LANE – I-95 AT MD 152 INTERCHANGE OPTION 1: DIAMOND

**c. I-95/MD 152 Interchange Option 4: Partial Cloverleaf –
Single Loop** (*see Figure 46*)

This option would include a diamond interchange with the addition of a single loop ramp from northbound I-95 to northbound MD 152. Two full traffic signals would be included with this option similar to existing conditions. This option incorporates cul-de-sacs to eliminate direct access from Old Mountain Road into the interchange ramp area. The Old Mountain Road bridge over I-95 would be removed and not need to be replaced.

The I-95 northbound approach would consist of six lanes. A one-lane diagonal ramp would lead to MD 152 southbound, followed by a one-lane loop ramp to MD 152 northbound. Six I-95 northbound lanes would continue north of the interchange.

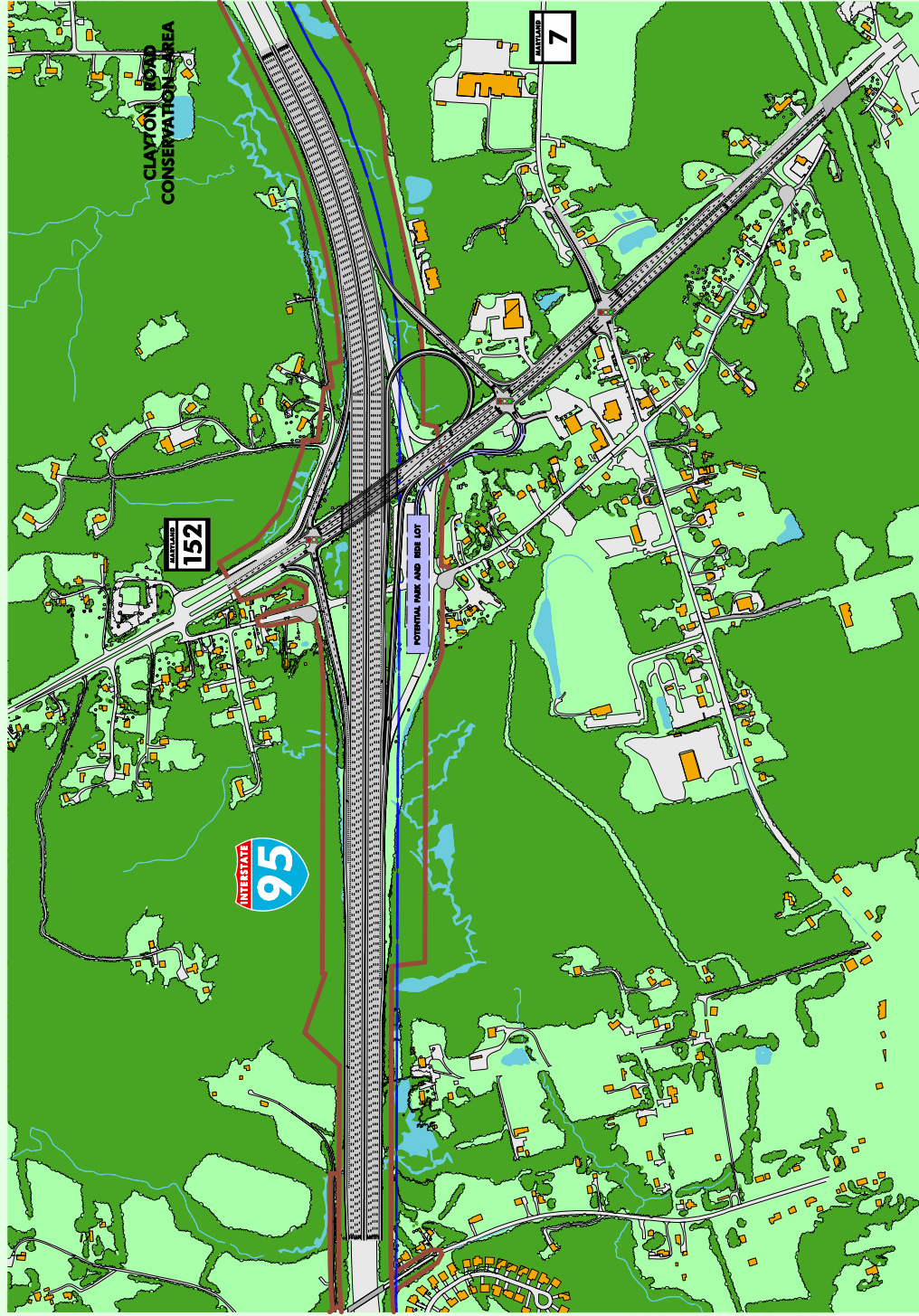
The I-95 southbound approach would consist of six lanes. A one-lane diagonal ramp would lead to MD 152. A two-lane diagonal ramp from MD 152 would merge into I-95 southbound, south of the interchange.

Two through lanes would generally be provided on MD 152, with additional turn lanes at the interchange ramps.

Bicyclists along MD 152 will be accommodated through the interchange with 8'-0" wide shoulders. The intersections along MD 152 at the ramp junctions were developed to be compact to limit vehicle speeds, and to include signalization for most vehicle movements through the intersections. Where free-flowing movements were unavoidable, designs were based on near minimum turning conditions in an effort to limit vehicle speeds.



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**FIGURE 46 – GENERAL PURPOSE LANE – I-95 AT MD 152 INTERCHANGE
OPTION 4: PARTIAL CLOVERLEAF – SINGLE LOOP**

d. I-95/MD 24 Interchange Option 2: Flyover for MD 24/MD 924 (see Figure 47)

This option would be a combination partial cloverleaf/directional configuration, with loops in the northwest and southwest quadrants, and a flyover ramp. One half traffic signal along MD 24 northbound would provide access for the I-95 northbound on ramp. One half traffic signal along MD 24 southbound would provide access for the I-95 southbound off-ramp.

The I-95 northbound approach would consist of six lanes. A three-lane directional flyover ramp would lead to MD 24/MD 924/Tollgate Road. This ramp would then split, with one lane to MD 24 southbound, and two lanes to MD 24 northbound/MD 924/Tollgate Road. This directional flyover ramp would then split again, with one lane to MD 24 northbound and one lane leading to MD 924/Tollgate Road. Five I-95 northbound lanes would continue north to MD 543.

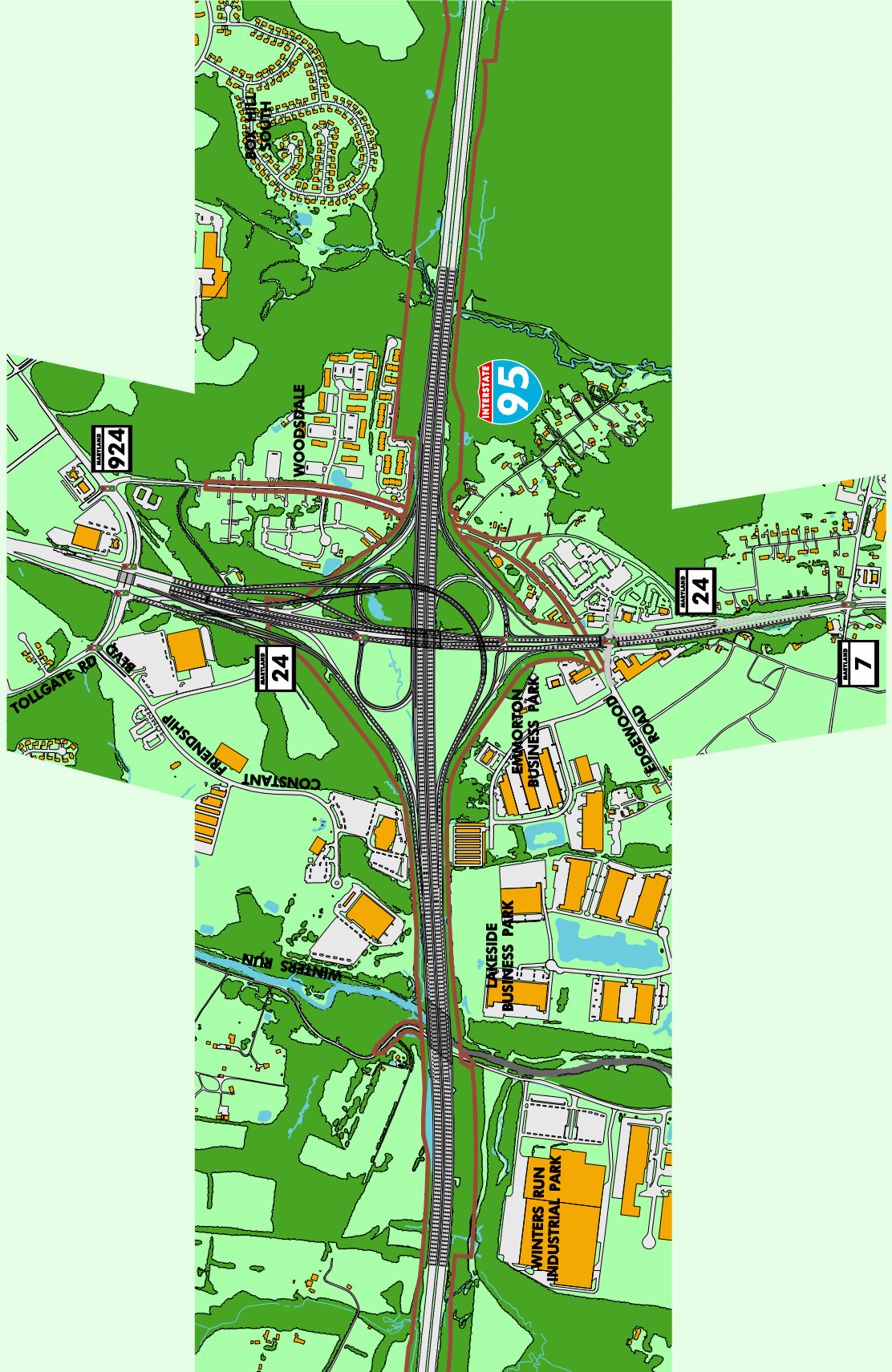
The I-95 southbound approach would consist of five lanes. The I-95 southbound approach would add a one-lane collector/distributor roadway. A one-lane outer connection ramp would lead to MD 924/Tollgate Road. The loop ramp in the southwest quadrant would lead to MD 24. The loop ramp in the northwest quadrant would serve traffic from MD 24 northbound to I-95 southbound. The one-lane collector/distributor roadway would then merge into I-95 southbound. A two-lane outer connection ramp from MD 24 Southbound/MD 924/Tollgate would merge to form a sixth lane added to I-95 southbound.

Two through lanes would generally be provided on MD 24, with additional lanes added or dropped at interchange ramps. A braided ramp system would be constructed along MD 24 northbound and southbound between I-95 and the MD 924/Tollgate Road interchange.

Due to the complexity, high traffic volume, high speed ramps, and free flow ramps at MD 24, alternate routes that bypass the interchange were developed. Two shared-use path options are being considered outside the limits of the interchange to accommodate bicyclists along MD 24. The Woodsdale Road Option utilizes shoulders on Woodsdale Road, a shared use bridge over I-95 and a shared roadway along Waldon Road. The Winter's Run Option utilizes a shared use path between Tollgate Road and MD 7 along Winter's Run, passing under I-95 and widened shoulders along MD 7.



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**FIGURE 47 – GENERAL PURPOSE LANE – I-95 AT MD 24 INTERCHANGE
OPTION 2: FLYOVER FOR MD 24 /MD 924**

e. I-95/MD 543 Interchange Option 1: Diamond (*see Figure 48*)

This option consists of a diamond interchange. Two full traffic signals would be included with this option similar to existing conditions.

The I-95 northbound approach would consist of five lanes. A two-lane diagonal ramp would lead to MD 543 northbound and southbound with the fifth lane of I-95 northbound dropping at this ramp. A one-lane diagonal ramp from MD 543 would merge into I-95 northbound. Four I-95 northbound lanes would continue north to MD 22.

The I-95 southbound approach would consist of four lanes. A one-lane diagonal ramp would lead to MD 543 northbound and southbound. A two-lane diagonal ramp from MD 543 would merge to form a fifth added lane to I-95 southbound.

Two through lanes would generally be provided on MD 543, with additional turn lanes at the interchange ramps.

Bicyclists along MD 543 will be accommodated through the interchange with 8'-0" wide shoulders. The intersections along MD 543 at the ramp junctions were developed to be compact to limit vehicle speeds, and to include signalization for most vehicle movements through the intersections. Where free-flowing movements were unavoidable, designs were based on near minimum turning conditions in an effort to limit vehicle speeds.



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FIGURE 48 – GENERAL PURPOSE LANE – I-95 AT MD 543 INTERCHANGE OPTION 1: DIAMOND