

### **6.0 Strategic Plan**

The Purpose and Need section detailed the deficient nature of the existing roadway system in the study area, discussed how anticipated growth is expected to further degrade the system, and theorized that improvements are needed to provide adequate capacity, level of service, and safety for current and future traffic volumes. The Preliminary Conceptual Alternatives section proposed a variety of improvements to solve the area's traffic problems including access management, capacity enhancements and new facilities. In the Evaluation of Preliminary Conceptual Alternatives section these concepts were evaluated with respect to the baseline (i.e. No-Build) for a variety of categories including Congestion/Delay, Safety, Drainage, Access Concerns, Environmental, and Projected Cost. The Preferred Conceptual Alternatives identified the most feasible alternatives based on the aforementioned evaluation criteria for each section of the study area. The purpose of the Strategic Plan is to breakdown the preferred conceptual alternatives into potentially fundable projects. The logical project termini listed below could in some cases be expanded to include improvements identified in an adjacent project(s) if adequate funding was to become available in the future. Long-term projects for each section of the study area are listed along with short-term improvements. A brief description, logical termini, jurisdiction and estimated costs are provided for each of the proposed improvements (*For a summary of improvement projects see Page 85 - SUM-18 Corridor Strategic Plan Summary.*)

#### **6.1 Access Management (Medina Line Rd to South Hametown Rd)**

##### *Long-Term Projects Identified*

**Median Barrier Installation / Rehabilitation of SUM-18-0054** – The project would entail the installation of a 6" raised aesthetically-treated median as a means of restricting access to right-turn-only ingress/egress along approximately 5200 feet (0.98 mile) of SR 18 from Medina Line Rd to South Hametown Rd. Potentially grouped with this improvement would be the rehabilitation of the SUM-18-0054 structure over the Yellow Creek. The combined cost of these two improvements would be approximately \$2.61 M (\$1.57 M for the median barrier installation and \$1.04 M for the structure rehabilitation.) Neither project would require the acquisition of any permanent right-of-way.

##### *Short-Term Improvements*

No short-term improvements have been identified for this section.

### **6.2 Intersection Concepts (Concepts with Independent Utility)**

#### *Long-Term Projects Identified*

**Add Southbound Right-Turn Lane on Springside Dr at SR 18** – This project would construct a right-turn lane on the southbound approach to the Springside Dr/SR 18 intersection. A minimal strip right-of-way take (approximately 0.2 acres) would be required on the west side of Springside Dr, and the projected work limits would extend back approximately 700 feet north of the SR 18 intersection. Project cost for the southbound right-turn lane is estimated to be \$1.16 M.

**Install Two-Stage Left Turn Median Refuge at Harmony Hills Dr** – This project would widen the existing 20 foot median to a width of 25 feet to allow for the storage of a vehicle completing a two-stage left turn out of Harmony Hills Dr. The project limits would extend approximately 250 feet from the intersection in both directions along SR 18, and all work would be anticipated to take place within the existing right-of-way. The project cost for this improvement is estimated to be \$370 K.

**Install Two-Stage Left Turn Median Refuge at North Hametown Rd / Install Westbound Right-Turn Lane** – This project would widen the existing 20 foot median to a width of 25 feet to allow for the storage of a vehicle completing a two-stage left turn out of Harmony Hills Dr. Also included in the project would be the installation of a westbound right-turn lane on SR 18. The project limits would extend approximately 250 feet from the intersection in both directions along SR 18, and all work is anticipated to take place within the existing right-of-way. The total project cost for these two improvements is estimated to be \$400 K.

**Add Left-Turn Lanes on Medina Line Rd at SR 18** – This project would construct left turn lanes on Medina Line Rd (northbound and southbound approaches) at the intersection of Medina Line Rd and SR 18. Minor strip right-of-way takes (approximately 0.2 acres total) would be required along both sides of Medina Line Rd 700 feet north and 700 feet south of the intersection with SR 18. Included with the project would be a replacement of the existing traffic signal. Total project cost is estimated to be \$775 K.

#### *Short-Term Improvements*

**Add Dual Northbound Left-Turn Lane on Springside Dr** – This project would entail restriping the existing four lanes on the south half of the Springside Dr/SR 18 intersection (presently two lanes in, a left-turn lane out and a right-thru lane out) to the proposed one lane in, dual left-turn lanes out and a right-thru lane out. Also included in this project would be the replacement of the existing traffic signal and new signage corresponding to the new lane configurations. These

improvements will be privately funded by a developer with property to the southwest on Rothrock Rd. This project may require an improved southwest corner intersection radius (either a three centered curve or a taper-curve-taper) for westbound trucks making a right turn into Springside Dr since they will only have one lane instead of two lanes to complete their turning movement. A small strip right-of-way take would be required to construct this improved radius. The total project cost is estimated to be \$ 342 K.

### **6.3 SR 18 Capacity Additions (South Hametown to Montrose West)**

#### *Long-Term Projects Identified*

**Relocate Montrose West Ave access to Heritage Woods Dr** – This project would eliminate the existing south leg of the Montrose West Ave/Crystal Lake Rd intersection with SR 18 and relocate Montrose West Ave access via Heritage Woods Dr. The new terminus of Montrose West Ave at Heritage Woods Dr will be located approximately 500 feet south of the signalized intersection at SR 18. The new intersection at Montrose West Ave and Heritage Woods Dr could be implemented as a roundabout configuration or as a signalized intersection in coordination with the existing signal at Heritage Woods Dr and SR 18. The relocation of Montrose West Ave would require the construction of approximately 1400 feet of new roadway through a substantial cut directly southwest of the existing Montrose West Ave terminus at SR 18. The required depth of excavation is anticipated to exceed 20 feet at the base of the existing hill, but no structures will be impacted as the roadway will cut through presently undeveloped parcels. In an effort to minimize right-of-way acquisition costs the new alignment should be designed with respect to the existing property line wherever possible to avoid the creation of uneconomic remnants. Because advance acquisition of the presently undeveloped parcels is critical to the feasibility of the project ODOT has already applied for funding through the Highway Safety Program, and is seeking Design funds in FY 2008, Right-of-way funds in FY 2009 and Construction funds in FY 2011. It is projected that 1.4 acres of right-of-way will have to be acquired for the Montrose West Ave relocation and that the total project cost will be \$4.79 M.

**Add 3<sup>rd</sup> Thru Lane on SR 18** – This project would construct an additional thru lane in both the eastbound and westbound directions along SR 18 between South Hametown Rd and Crystal Lake Rd – a distance of approximately 2900 feet (0.55 miles.) Also included in this project is the addition of dual left-turn lanes at two locations: westbound into Heritage Woods Dr, and eastbound into Crystal Lake Rd. A dual right-turn turn lane would also be provided northbound on Heritage Woods Dr at SR 18. At South Hametown Rd the median would be widened to accommodate the potential future installation of a westbound dual left-turn lane into South Hametown Rd. The three signalized intersections within the project limits (South Hametown Rd, Heritage Woods Dr and Crystal Lake Rd)

would require traffic signal replacements because of the capacity enhancements. A curb island would be installed to allow continuous right-turns on northbound South Hametown Rd at SR 18. These improvements are anticipated to require the acquisition of 1.2 acres of permanent right-of-way, and the estimated project cost is \$3.60 M.

### *Short-Term Improvements*

**Signal Coordination at Heritage Woods Dr and Crystal Lake Rd/Montrose West Ave** – This interim improvement would coordinate the existing signals along SR 18 at Heritage Woods Dr and Crystal Lake Rd/Montrose West Ave to optimize the operation of these two signals.

## **6.4 I-77 Mainline**

### *Long-Term Projects Identified*

**Northbound Early SR 18 Exit** – This project would relocate northbound I-77 access to SR 18 south of the merge with northbound SR 21 on a new single lane exit. This new single lane exit ramp would run about 2200 feet before it would combine with a new single lane slip ramp (approximately 1200 feet long) from northbound SR 21. From this point the new two-lane ramp would run northwest and eventually parallel to the I-77 mainline 2000 feet to the modified cloverleaf interchange. No bridge structures are required in the construction of the northbound Early SR 18 Exit. The acquisition of 5.6 acres of right-of-way would be required from parcels along the west side of Rothrock Rd, although no structure takes are anticipated. The total project cost is estimated to be \$13.14 M.

**Southbound C-D System** – This improvement would entail the construction of a southbound collector-distributor (C-D) roadway between the SR 18 and SR 21 interchanges parallel to the mainline. Southbound I-77 access to southbound SR 21 would exit as a new two-lane ramp in the vicinity of the existing mainline structure over SR 18 (SUM-77-2321), and combine with a single lane entrance ramp from eastbound SR 18 to form a three-lane C-D system. This three-lane C-D roadway would run parallel and adjacent to the mainline for approximately 4500 feet (0.85 miles) to the SR 21 interchange. At this point the inside two lanes would continue south 1200 feet where they would tie-in to the existing southbound SR 21 pavement. The outside lane would diverge as a flyover ramp to southbound I-77 spanning the new southbound SR 21 lanes and the existing northbound SR 21 lanes. The flyover ramp structure is projected to be at least 300 feet in length and will most likely be a curvilinear structure given the geometric constraints of the existing interchange. The SUM-77-2321 structure over SR 18 would also be replaced as part of this project to accommodate the

early exit of southbound SR 21 to the C-D system. This entire footprint of the C-D system and the flyover ramp would be completed within the existing right-of-way. The total project cost of these improvements is estimated to be \$6.53 M.

### *Short-Term Improvements*

No short-term improvements have been identified for this section.

## **6.5 SR 18 & I-77 Interchange**

### *Long-Term Projects Identified*

**Modify Cloverleaf Interchange/Add 3<sup>rd</sup> Thru Lane on SR 18 (Crystal Lake Rd to Springside Dr)** – This project would include various modifications to the existing I-77/SR 18 cloverleaf interchange along with corresponding capacity improvements to SR 18 in the vicinity of the interchange. The two existing exit loops ramps from I-77 would be eliminated. The northbound I-77 to eastbound SR 18 single lane ramp would be widened to accommodate the second lane from the northbound Early 18 Exit. The ramp would eventually widen to 4 lanes (dual right-turns and dual left-turns) at a reconfigured terminus at SR 18 where it would tee into a signalized intersection. The southbound I-77 to westbound SR 18 exit would be widened to two lanes midway and eventually to 4 lanes (dual right-turns and dual left-turns) at the reconfigured terminus at SR 18 at a new signalized intersection. Along SR 18 a third thru-lane would be added in both directions between Crystal Lake Rd and Springside Dr – a distance of 3400 feet (0.64 miles.) In addition, single right-turn lanes would be installed at all four of the existing I-77 entrance ramps, except eastbound SR 18 to southbound I-77 which would receive dual right-turn lanes. All interchange ramp modifications would take place within the existing right-of-way; however, the SR 18 widening and turn lane additions would require the acquisition of minor strip takes totaling 0.3 acres. Also potentially included in the project is replacement of the SUM-77-2321 structure over SR 18 in order to meet vertical clearance standards. The cost of the structure replacement is \$9.93 M. The total project cost of these improvements is estimated to be \$23.91 M with the structure replacement and \$13.96 M without the structure replacement.

NOTE: It is highly recommended that the I-77 Mainline improvements (Northbound Early SR 18 Exit and Southbound C-D System) be constructed in close succession with Modified Cloverleaf and related SR 18 improvements at the interchange as these components together are integral to the improved operation of the interstate system. The implementation of these improvements will be especially critical after the Montrose West Relocation and SR 18 Add-Lane remove the existing bottleneck condition at the Montrose West Ave/Crystal Lake Rd intersection with SR 18.

### *Short-Term Improvements*

No short-term improvements have been identified for this section.

### **6.6 I-77 and SR 21 Interchange**

#### *Long-Term Projects Identified*

No long-term projects have been identified for this section.

#### *Short-Term Improvements*

No short-term improvements have been identified for this section.

## SUM-18 Corridor Strategic Plan Summary

Project	Jurisdiction	Projected Costs (2007 Dollars)			
		Planning & Design	Right-of-Way	Construction	Construction Administration
Signal Coordination at Heritage Woods Dr, Crystal Lake Rd/Montrose West Ave & South Hametown Rd	ODOT	\$16,000	\$0	\$20,000	\$0
Add Dual Northbound Left-Turn Lane on Springside Dr*	Private Developer	\$25,850	\$37,500	\$256,759	\$21,542
Relocate Montrose West Ave access to Heritage Woods Dr**	ODOT	\$360,753	\$1,027,500	\$3,099,073	\$300,628
Add Southbound Right-Turn Lane on Springside Dr at SR 18	Summit County/ODOT	\$86,878	\$75,000	\$916,566	\$81,086
Add 3rd Thru Lane on SR 18 (South Hametown Rd to Crystal Lake Rd)	ODOT	\$313,409	\$877,500	\$2,116,183	\$292,515
Northbound Early SR 18 Exit	ODOT	\$994,306	\$4,252,500	\$7,066,013	\$828,588
Southbound C-D System	ODOT	\$493,997	\$0	\$5,623,328	\$411,664
Modify Cloverleaf Interchange / Add 3rd Thru Lane on SR 18 (Crystal Lake Rd to Springside Dr)	ODOT	\$1,808,929	\$240,000	\$20,351,637	\$1,507,440
With SUM-77-2321 Replacement for Vertical Clearance	ODOT	\$1,115,929	\$240,000	\$11,689,907	\$929,940
Without SUM-77-2321 Replacement for Vertical Clearance	ODOT/Summit County	\$58,616	\$50,000	\$617,240	\$48,846
Add Left-Turn Lanes on Medina Line Rd at SR 18	ODOT	\$78,750	\$0	\$896,437	\$65,625
Rehabilitation of SUM-18-0055	ODOT	\$27,973	\$0	\$318,421	\$23,311
Install Two-Stage Left Turn Median Refuge at Harmony Hills Dr	ODOT	\$30,283	\$0	\$344,716	\$25,236
Install Two-Stage Left Turn Median Refuge at North Hametown Rd / Westbound Right-Turn Lane	ODOT	\$118,510	\$0	\$1,349,039	\$98,758
Median Barrier Installation (Medina Line Rd to South Hametown Rd)	ODOT				
<b>CORRIDOR TOTAL ***</b>					<b>\$57,654,903</b>

\* Improvement to be funded by Private Developer

\*\* Applying for ODOT Highway Safety Program (HSP) funding

\*\*\* Corridor Total includes cost of SUM-77-2321 replacement