



Alternative Analysis Matrix 78th Street - Pacific Street to Mercy Road

Alternative Description			
Evaluation Factors	Alternative 1 - 2 Lane Rural 2-12' travel lanes 24' wide pavement with drainage ditches	Alternative 2 - 2 Lane Urban 2-12' Travel Lanes 24' wide pavement with curb and gutters	Alternative 3 - 3 Lane Urban 2-12' Travel Lanes and 1-12' Shared Turn Lane 36' wide pavement with curb and gutters
Traffic Operations			
Roadway Operations - Year 2040 Volumes	LOS of B or better	LOS of B or better	LOS of B or better
Intersection Operations - 2040 Volumes along 78th Street corridor between Pierce Street and Shirley Street	Individual movements at LOS of B or better for the 78th Street intersections	Individual movements at LOS of B or better for the 78th Street intersections	Individual movements at LOS of B or better for the 78th Street intersections
Access to Properties	Access Maintained	Access Maintained	Access Maintained
Roadway Characteristics			
Turn lanes	No left turn lanes provided on 78th Street	No left turn lanes provided on 78th Street	Shared center left turn lane on 78th Street
Drainage	Stormwater runoff handled by open roadway ditches along 78th Street. Maintenance and impact to home owners a concern with this method.	New storm sewer system with curb and gutter and storm inlets along 78th Street to handle stormwater runoff.	New storm sewer system with curb and gutter and storm inlets along 78th Street to handle stormwater runoff.
Sight Distance	Existing sight distance distance will be improved along 78th Street with a new vertical curve near Pine Circle.	Existing sight distance distance will be improved along 78th Street with a new vertical curve near Pine Circle.	Existing sight distance distance will be improved along 78th Street with a new vertical curve near Pine Circle.
Bicycle Facility	No bike lane provided.	No bike lane provided.	No bike lane provided.
Driveway Impacts	23 driveways require alterations	15 driveways require alterations	23 driveways require alterations
Sidewalks	No Sidewalks or sidewalks located outside of existing Right-of-Way	Sidewalks on both sides of 78th Street and located in existing Right-of-Way	Sidewalk on only one side of 78th Street
Retaining Walls	22,200 Face Square Footage Largest Amount of Retaining Walls	12,000 Face Square Footage Least Amount of Retaining Walls	17,800 Face Square Footage Second Largest Amount of Retaining Walls
Earthwork	Cut = 16,000 CY Fill = 7,200 CY Large Amount of Cut and Project Haul-Off	Cut = 7,000 CY Fill = 12,500 CY Least Amount of Earthwork	Cut = 11,500 CY Fill = 15,600 CY Largest Amount of Earthwork
Cost	\$3,436,000	\$2,912,000	\$3,698,000
Right-of-Way Impacts	Most amount of area outside of existing Right-of-Way impacted in this design option. More would be affected to include sidewalks.	Least amount of area outside of existing Right-of-Way impacted in this option.	Second largest amount of area outside of existing Right-of-Way impacted in this design option. Retaining walls could help reduce the impact to the area outside of Right-of-Way.
Constructability	Phasing with detours, would have longer construction phases duration to allow for completion of earthwork and retaining walls to be constructed	Phasing with detours, would have the shortest construction phases of the three build options.	Phasing with detours, would have longer construction phases duration to allow for additional lane of pavement, completion of earthwork and retaining walls to be constructed
Utility Impacts	The additional grading for drainage ditches adequate to handle the anticipated runoff would impact many of the underground utilities. This option is anticipated to impact the largest amount of utilities.	The addition of underground storm sewer may impact many of the underground utilities along the 78th Street corridor. The impacts to existing utilities are anticipated to be the lowest in this option of the three build options.	The addition of underground storm sewer and additional pavement may impact many of the underground utilities. The impact to the existing utilities are anticipated to be the second least of the three options.
Environmental	No wetlands are within the project vicinity. Noise levels would be the same as existing levels.	No wetlands are within the project vicinity. Noise levels would be the same as existing levels.	No wetlands are within the project vicinity. Possible noise impacts with the widening of the road and removal of existing foliage that blocks or dampens current noise.
Recommendation			
Rank	3	1	2