

Summary of Exceptions to Advisory and Mandatory Design Standards For SR 65/70 Project

<i>Alternatives</i>	<i>Design Feature</i>	<i>HDM Standard</i>	<i>Reason for Requesting Exception</i>	<i>Cost to Make Standard</i>
McGowan Options				
McGowan Interchange Option A, No-Build	The existing condition distance between SR 65 / SR 70 (PM 9.163) freeway to freeway connection to McGowan Interchange (PM 8.028) is app. 1.1 miles.	HDM Index 501.3 Spacing- "The minimum interchange spacing shall be one mile in urban areas, two miles in rural areas, and two miles between freeway-to-freeway interchanges and local street interchanges."	To meet the standard spacing between the existing SR 65 / SR 70 connection and the existing McGowan Interchange would require the closure of the McGowan Interchange. The closure of McGowan Interchange would redirect mainline SR 65 and local road traffic circulation to Forty Mile Road (PM 6.884) Interchange, approximately 1.2 miles south of the existing McGowan Interchange. Which would require major local road infrastructure improvements. New frontage, local roads and connections to Forty Mile Road would be required. As well as, the potential to improve the existing Forty Mile Road Interchange Type L-2 configuration to accommodate the new traffic circulation.	\$4 million to \$6 million
McGowan Interchange Option A, No-Build	The existing intersection spacing between the Southbound ramp intersection and Olive Ave is approximately 270 ft.	HDM Index 504.3.3 Ramps- "For new construction or major reconstruction of interchanges, the minimum distance (curb return to curb return) between ramp intersection and local road intersections shall be 400 feet. The preferred minimum distance should be 500 feet."	To meet the intersection spacing would require the realignment of Olive Ave., which is not a reasonable because the location is physically constrained. The existing Olive Ave is between SR 65 to the east and adjacent residential houses on the west, which would preclude the realignment. Closure of Olive Ave is not an option because this road is the primary road to a school and the Sierra View Memorial Park. Any closure would have negative affect for the residential homes between SR 70 on the east, SR 65 on the west along McGowan Parkway.	\$10 million
McGowan Interchange Option A, No-Build	The existing Southbound and Northbound on-ramp skew angles are approximately 48 degrees.	HDM Index 403.3 Angle of Intersection- "When a right angle cannot be provided due to physical constraints, the interior angle should be designed as close to 90° as is possible, but should not be less than 75°. Mitigations should be considered for the affected intersection design features."	To meet the correct intersection skew angle a partial ramp reconfiguration would be required, near the local road intersection, to achieve the desired skew angle range. This locations does not have a history of traffic accidents based on TASAS Table B.	\$1 million to \$2 million
McGowan Interchange Option A	The existing Southbound and Northbound on-ramp skew angles are approximately 48 degrees.	HDM Index 403.3 Angle of Intersection- "When a right angle cannot be provided due to physical constraints, the interior angle should be designed as close to 90° as is possible, but should not be less than 75°. Mitigations should be considered for the affected intersection design features."	To meet the correct intersection skew angle a partial ramp reconfiguration would be required, near the local road intersection, to achieve the desired skew angle range. This locations does not have a history of traffic accidents based on TASAS Table B.	\$1 million to \$2 million
McGowan Interchange Option A	The cut and fill slopes will be greater than 4:1.	HDM Index 304.1 Side Slope Standards- "For new construction, widening, or where slopes are otherwise being modified, embankment (fill) slopes should be 4:1 or flatter."	To meet the 4:1 side slopes, existing residence and businesses would be impacted and would require additional right-of-way.	\$1 million to 2 million
Erle Options				
Erle Interchange Options A,C and D	The Southbound on-ramp superelevation transition length between the 300 ft radius and the 1000 ft radius is 191 ft < 360 ft.	HDM Index 202.5 (1) - A superelevation transition should be designed in accordance with the diagram and tabular data shown in Figure 202.5A to satisfy the requirements of safety, comfort and pleasing appearance. Per Table 202.5(A), the standard transition length for a multilane ramp with a 12% superelevation would be 300-feet. The 1000-foot radius curve would have a 240 foot transition length for a 10% superelevation. The tangent length standard between the curve should be 360 feet.	To meet the advisory superelevation transition tangent length between the two curves would require the realignment of the southbound ramp. Which would affect and potential encroach on the existing Chestnut frontage local road between SR 70 and the existing residential homes. It would require right-of-way impacts to the existing homes and the realignment of the Chestnut frontage road to accommodate the new southbound ramp alignment that will meet advisory superelevation transitions.	\$2 million to \$5 million
Erle Interchange Options A,B,C and D	The distance between the Chestnut local frontage road edge to travel way to the proposed southbound slip on-ramp edge of travel way is approximately 20 feet.	HDM Index 310.2 - In urban areas and in mountainous terrain, the width of the outer separation should be a minimum of 26 feet from edge of travel way to edge of travel way. In rural areas, other than mountainous terrain, the outer separation should be a minimum of 40 feet wide from edge of travel way to edge of traveled way.	To meet the advisory outer separation standard would require the realignment of the Chestnut local frontage road, which would have significant right-of-way impacts to the adjacent residential homes.	\$5 million to \$7 million
Erle Interchange Options A,B,C and D	The interchange spacing between Olivehurst Interchange and Erle Interchange is approximately .873 mile < 1 mile	HDM Index 501.3 Spacing- "The minimum interchange spacing shall be one mile in urban areas, two miles in rural areas, and two miles between freeway-to-freeway interchanges and local street interchanges."	Both interchanges are established local roads with well-known circulations, in addition development surround these interchanges. To move an interchange to require the spacing would have enormous right-of-way, community, and cost impacts.	\$35 million to \$75 million
Erle Interchange Options A,C and D	Spacing from either Lindhurst and or Chestnut to the proposed ramp intersection would be either less than 400 ft and the 500 ft spacing.	HDM Index 504.3 Ramps- "For new construction or major reconstruction of interchanges, the minimum distance (curb return to curb return) between ramp intersections and local road intersections shall be 400 feet. The preferred minimum distance should be 500 feet."	The local road intersections would need to move further from the ramp intersection and would require the acquisition of new right-of-way, underground infrastructure and additional project cost.	\$3 million to \$5 million
Erle Interchange Options A,C and D	The Stopping Sight distance for the Crest Vertical Curve over the Erle Overcrossing has a design speed of approximately 43 mph < 45 mph.	HDM Index 101.2 Design Speed Standard- "The following table shows appropriate ranges of design speeds that shall be used for various conditions: Facilities connecting to a freeway or expressway = 35(M)/45(A)"	To meet the advisory design speed of 45 mph, the overcrossing will need to be entirely reconstructed to extend the vertical curve length to obtain the sight distance. The current proposed project entails widening of the structure in accordance to the existing profile grades, which meet the mandatory design speed.	\$12 million
Erle Interchange Options A,B,and D	Fill slopes steeper than 4:1.	HDM Index 304.1 Side Slope Standard - "For new construction, widening, or where slopes are otherwise being modified, embankment (fill) slopes should be 4:1 or flatter."	The existing right-of-way, vertical clearance between overcrossing and roadways, and adjacent roadways require side slopes steeper than 4:1 in some areas. Maintaining the advisory side slope of 4:1 or flatter will require realignment of roadways and structures to accommodate the horizontal space. Also, potential retaining walls would be required.	\$4 to \$8 million
SR 65/70 Connector				