

## COMMENT AND RESOLUTION FORM

<b>Project Name:</b>		Grant Road Phases 5 & 6, 30% Plan Review				
<b>Description:</b>		Road Safety Assessment		<b>Project No:</b>	I-2021-011	<b>Date:</b> Jan 2022
No.	Sheet	Page	Staff	Comment	Response	
26	Mountain Ave & Grant Rd	30, 18	RSA	<ul style="list-style-type: none"> <li>A. Remove the eastbound right turn lane</li> <li>B. Consider positive offset and/or protected left turn only phasing</li> <li>C. Shorten north-south pedestrian crossing length</li> <li>D. Provide LPI</li> </ul>	<ul style="list-style-type: none"> <li>A. EB Right turn volume is significant (150 in AM). On the other hand, there are cut-through traffic and acquisition considerations. Will consult with ward office.</li> <li>B. Will comply</li> <li>C. See response to A.</li> <li>D. Challenging because split phasing (and not adding turn lanes) already reduces operational efficiency. Visibility is good and bus pullout includes entry taper; therefore, LPI is not deemed necessary.</li> </ul>	
27	Warren Ave & Grant Rd	30, 19	RSA	<ul style="list-style-type: none"> <li>A. Install a buffer for the bicycle lane on the north side</li> <li>B. Install bicycle stop sign and markings at intersection</li> </ul>	<ul style="list-style-type: none"> <li>A. Will add bike lane buffer from Martin to Warren. Block from Martin to Campbell will keep as designed to reduce encroachment on park.</li> <li>B. Will comply.</li> </ul>	
28	Campbell Ave & Grant Rd	30, 20	RSA	<ul style="list-style-type: none"> <li>A. Install illuminated no left turn/u-turn signage</li> <li>B. Install a through lane signal arrow</li> </ul>	<ul style="list-style-type: none"> <li>A. Decline at this time. Not a problem along corridor, speeds are relatively low and drivers expect indirect left turns as a corridor treatment (unlike Ina/Oracle). Before/After Safety study at Grant/Oracle did not show left turn crashes to be an issue (and there are no illuminated signs. The illuminated signs get hit often resulting in maintenance costs. Will consider installation if a need is identified at other Grant Rd intersections.</li> <li>B. Will implement for EW Grant at Campbell. (Red Ball, Yellow Ball, Green Thru arrow. For Right turns will do red ball, yellow arrow, FYA).</li> </ul>	

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29	Grant Road east of Campbell Avenue	30, 21	RSA	<ul style="list-style-type: none"> <li>A. Install sidewalk in front of residences (south of frontage road)</li> <li>B. Install perpendicular pedestrian crossing</li> </ul>	<ul style="list-style-type: none"> <li>A. Decline, due to drainage (which could cause ponding in yards) and property impacts associated with tying driveways in vertically, modifying screen walls/fences (which would require additional easements). Sidewalk on north side of frontage road results in less conflicts with driveways, better visibility backing out of properties and a wider pedestrian realm adjacent to a landscaped island.</li> <li>B. Will shift south as much as possible without impacting private property</li> </ul>		
30	Wilson Avenue and Grant Road	30, 22	RSA	<ul style="list-style-type: none"> <li>A. Install scupper with ADA pedestrian rail</li> <li>B. Narrow northbound approach at intersection</li> </ul>	<ul style="list-style-type: none"> <li>A. Will Comply</li> <li>B. Will Comply</li> </ul>		
31	Tucson Boulevard and Grant Road	30, 23	RSA	<ul style="list-style-type: none"> <li>A. Relocating the north leg of the crosswalk to be closer to the intersection</li> <li>B. Install a channelized westbound (Grant Road) to northbound (Tucson Boulevard) right turn</li> <li>C. Positive offset and/or protected left turn only phasing</li> <li>D. Provide a LPI (east leg minimum)</li> <li>E. Install pavement markings ("puppy tracks" or striping)</li> </ul>	<ul style="list-style-type: none"> <li>A. Will Comply</li> <li>B. Decline. There is no evidence we are aware of (CMF or anecdotal) that channelized rights would be safer than traditional right turns. Channelizing results in higher speed right turns and is usually considered for high volume movements as a capacity solution (not applicable here). Channelized rights are most effective need a receiving lane. Finally, channelization would result in property impacts to a recently improved parcel.</li> <li>C. Will comply</li> <li>D. Decline, due to increased delays for through traffic. Will consider other alternatives such as blank-out LED signs alerting drivers of a crossing pedestrian.</li> <li>E. Already provided</li> </ul>		
32	Treat Avenue and Grant Road	30, 24	RSA	<ul style="list-style-type: none"> <li>A. Narrow the median opening</li> <li>B. Add delineator posts</li> <li>C. Remove crosswalks on north and south leg</li> </ul>	<ul style="list-style-type: none"> <li>A. Decline. Width is necessary for bikes and pedestrians</li> <li>B. Will install a flexible delineator between pedestrian and bike crossings at the Grant Rd Median.</li> <li>C. Will remove East-West Crosswalks</li> </ul>		
33	Grant Road: East of Treat Avenue	30, 25	RSA	Shift turn pocket to either the east or west direction to prevent contra-flow style left turns	Will move U turn opportunity 20-30' to the East to prevent wrong-way left turns		

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34	Country Club Road and Grant Road	31, 26	RSA	A. Positive offset for left turns and/or protected left turn phasing B. Provide LPI	A. Will add positive offsets for the left turns B. See response to comment #31 D.		
35	Loretta Drive and Grant Road	31, 27	RSA	Install left turn lane	Decline. prefer to discourage due to its proximity to the intersection of Grant Rd and Country Club. Could create safety issues with overlapping left turns. Instead, traffic can head westbound on Grant from Country Club then turn right (North) onto Loretta.		
36	Camilla Boulevard and Grant Road	31, 29	RSA	A. Provide directional sidewalk ramps B. Check directional alignment into driveway for left turn.	A. Will evaluate alternatives for SW corner of the intersection and provide directional ramps if space allows. B. Will Comply. Psomas has verified turning movements into driveways and side streets and made revisions where needed. The design of some openings needs to accommodate WB-62 vehicles, which makes opening look misaligned for smaller vehicles. In those cases, striping was added to delineate the path of smaller vehicles.		
<i>Motor Vehicle Systemic Suggestions</i>							
37		31, 16	RSA	Install appropriate lighting (pedestrian-level or other as merited)	As designed - pedestrian lighting will be provided in high use areas such as bus stops. Light shields will be installed in residential areas		
38		31, 16	RSA	Reduce redundant driveways	Will continue to evaluate driveway consolidation opportunities with Real Property		
39		31, 16	RSA	Consider adjacent parcel side access	Will continue to evaluate driveway consolidation opportunities with Real Property		
40		31, 16	RSA	Align directional turns/avoid contraflow left turns	Wide opening needed for large trucks, added striping to delineate turn path		
41		31, 16	RSA	Utilize positive offset for left turns and/or protected phasing. Especially for dual left turns	Will provide positive offsets. Will stripe out dual lefts SB at Campbell.		
42		31, 16	RSA	Consider right-turn pockets for high-demand driveways	Decline. RT lanes would expose cyclists, encourage speeding and result in significant additional real property costs. The 8' bike lane (6' + 2' buffer) provides sufficient room to slow down before the turn.		

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43		31, 16	RSA	Carefully align stop signs on frontage roads (avoid visibility from Grant Road)	Will comply	
<i>Bicycle and Pedestrian Systemic Suggestions</i>						
44		31, 17	RSA	Install pedestrian level lighting at bus stops	As designed	
45		31, 17	RSA	Confirm crossing opportunity at bus stops	As designed	
46		31, 17	RSA	Ensure perpendicular pedestrian crossing opportunities	Will maximize visibility and reduce crossing length within ROW/property constraints	
47		31, 17	RSA	Consider wrong way riding signs on bike lane signs	Decline. Not an issue in Tucson, prefer to avoid sign clutter.	
48		31, 17	RSA	Provide bike cue boxes at all arterial intersections	Will be provided at indirect lefts, consistent with the rest of the Grant Corridor, to avoid the longer travel path. Not necessary at other intersections.	
49		31, 17	RSA	Install striping detail for bike lane, pilot in other corridor locations	Will comply. Have started the process to do a pilot project on Grant Phase 2.	
50		31, 17	RSA	Install benches and shade at bus stops	As designed	
51		31, 17	RSA	Add shade landscaping	As designed, to be detailed at 60% plan stage	
52		31, 17	RSA	Install Leading Pedestrian Intervals (LPI) at signals by bus pullouts, can be installed elsewhere as appropriate	No, due to increase delays for through traffic, but will consider other alternatives (3 locations, NW Grant & Campbell, SE Grant & Tucson, SW Grant & Country Club)	
53		31, 17	RSA	Provide channelized right turn lanes with raised crosswalks as feasible	No. See response to comment 31B	