Issue	Description	Specific Concerns	Explanation or Proposed Change
1.	Half Diamond and Displaced Left turn projects	Clarify why the half diamond and the displaced left turn ideas were not brought forward	The half diamond project did have a significant improvement to capacity, however, the impacts to private property, natural resources, bicycle and pedestrian movement are high. The cost of that project is also very high. Alternative #3 (Southbound Displaced Left) provides nearly the same capacity as a full interchange, at a fraction of the costs. However, the following issues kept the CAG and TAG from recommending it: • This concept is new to ODOT and is not well-tested in Oregon. This creates uncertainty at ODOT when a new concept is proposed. A new type of facility that drivers are not accustomed to creates a risk of driver confusion. • ODOT is concerned with the close spacing of the signals. • Storage at the left-turn signal would likely require significant widening & earthwork, impacting the geologic hazard area and natural resource overlay district (NROD) significantly. It would also require significant acquisition of private property. • The pedestrian crossing distance, already long, would be increased. Staff believes that as these types of facilities become more common and are built in more areas this could be a viable long term option for the intersection. Please refer to item #7 in this matrix for a discussion of how this idea can be further investigated in the long term.
2.	ADA requirements	How is the project meeting ADA requirements?	Any new project would be built to current ADA standards. This was not explicitly noted in the report, but is understood and a requirement for any new construction or modifications to existing infrastructure. As an example, in order to construct the Meyers Road Extension and add the 4th leg to the intersection the City is required to update the entire signal (including pedestrian push buttons) & all the pedestrian ADA ramps to current standards.

Issue	Description	Specific Concerns	Explanation or Proposed Change
3.	1993 agreement for interchange	In 1993 the City, County, and ODOT signed a Memorandum of Understanding that agreed on an atgrade intersection and a future grade separated interchange. What happened to this agreement?	It appears that the County requested a change to the agreement that the City commit to denying new development at the intersection if traffic analysis demonstrates that the intersection will not operate at Level of Service D or better or if the development will impede implementation of or substantially increase cost of grade-separated interchange improvements. The City had concerns over this request and rescinded its approval of the agreement according to meeting minutes from May 19, 1993.¹ There is no evidence of a replacement agreement or a re-negotiation in the months and years following this decision.
			The City went through a TSP update in 2001 and identified an intersection expansion project that included exclusive right turn lanes, signal modification, and expansion of left turn lanes. The project cost was estimated at \$5.45M with \$2.5M to come from a City match through urban renewal funds. That project was built in 2004 with a combination of funds, including urban renewal funds. ² The 2001 TSP also referred to the grade-separated interchange idea, and included a long term project for a single point diamond interchange. This 2001 TSP identified the interchange project cost as \$20M, and noted that \$5M would come from the City and \$15M would come from ODOT/Metro. The two aforementioned projects were based on the Highway 213 Corridor Study completed in 2000. ³ The Advisory groups who participated in this project recommended the at-grade intersection expansion that became a 2001 TSP

¹ See document in record entitled 1993-05-19 City Commission Minutes

² See document in record entitles HWY 213 improvements before and after images

³ See document in record entitled HWY 213 Corridor Study, 2000

Issue	Description	Specific Concerns	Explanation or Proposed Change
			through 2015, and the City would have to consider changes, such as the grade separated interchange, at that time. The study also indicated that other system connections may preclude the need for this interchange.
			When the City updated its TSP in 2013, the interchange project was eliminated from the project list due to livability, multi-modal access and funding constraints within the 2035 planning horizon. The TSP instead called for alternative mobility targets for this intersection, and said the interchange project should be reconsidered beyond the 2035 planning horizon if targets cannot be met.
4.	Newell Creek fish passage	 Stormwater outflows into culvert under HWY 213 that is connected to Newell Creek Could the culvert and drainage be improved to allow fish passage? 	The photo provided at the January 22 nd hearing is older, and ODOT has since upgraded the stormwater infrastructure in the area. ⁴ They recently completed work to stop erosion under the retaining wall and in the outfall area, including additions of rip rap to the area and filling in under the retaining wall with concrete.
		pussage.	Staff reviewed the Greater Oregon City Watershed Council Assessment and Action Plans for information on fish presence in Newell Creek. Fish are present in the lower and middle reaches of the creek, including juvenile coho, juvenile steelhead, trout, and lamprey. It is not clear if fish passage currently occurs at the culvert due to natural topography of the creek leading to the area, and lamprey are more likely to be able to pass than other fish species. The GOCWC's action plan does not include any specific fish passage improvements for Newell Creek. ⁵
			Regardless of the proposed code changes to Chapter 12.04 and the TSP project

 $^{^{\}rm 4}\,{\rm See}$ item in record titled ODOT Stormwater improvements images

⁵ See item in record titled GOCWC Watershed Action Plan

Issue	Description	Specific Concerns	Explanation or Proposed Change
			amendments, the Natural Resource Overlay District will adequately protect designated riparian areas. Addition of new impervious area within the NROD is expected to be necessary for the proposed right turn lane project, and this project will be required to undergo review per Chapter 17.49 of the Oregon City Municipal code. Mitigation will be required for any new impervious surface added. It is not expected that changes to the culvert will be required by City code. New stream crossings are required to be by bridge or bottomless culvert; upgrade to existing stream crossings are not likely to be required, but may be proposed by ODOT as part of an improvement project.
5.	Bike routes	 Are the planned bike routes in the area still a possibility? Would like to see a separated bike route to the high school along the south side of Beavercreek Road There is a shared use path planned parallel to HWY 213 that could provide a bike route all the way to Washington Street area 	 No changes to planned bike and trail TSP projects are proposed, other than the addition of a shared use path project explained below. Wayfinding signage and bike lane improvements on Beavercreek Rd are proposed as part of TSP project W84. All existing bike lanes and paths in the TSP will be retained. The current plan for Beavercreek Rd includes bike lanes and sidewalks all the way south past the high school. As properties along Beavercreek Road redevelop, city staff will work with developers on the design details for the street improvements. Through the land use process, staff has the ability to modify the design of street improvements, and could potentially include a separated bike path instead of a bike lane on-street. This modification is a Type II process through Chapter 12.04.007. The planned shared use path that parallels HWY 213 is a project in the Regional Transportation Plan (Project # 10147 Newell Creek Canyon/Holly Lane Shared-Use Path) and is in the City's trails master plan. The full path is not currently on the City's TSP project list; project #S12 covers a portion of the trail near Ogden Middle School. Metro has acquired properties within this corridor for future development of the trail. Staff has added a revision to the # S13 shared use path project to the TSP project list proposed amendments in an effort to bring consistency to the

Issue	Description	Specific Concerns	Explanation or Proposed Change
			city's trail and transportation plans, and reflect regional plans. See revised TSP project list for project #S13.
6.	Trimet service	Why can't we improve transit service in the area or connect light rail down here?	Currently TriMet line 32 uses the Hwy 213 & Beavercreek intersection. They use the Beavercreek EB to 213 SB & 213 NB to Beavercreek WB movements. Neither of those movements are ones that see the heavy movements and delays. The TriMet Southeast Service Enhancement Plan provides a vision for the future of transit in the southeast portion of TriMet's transit district. The plan identifies the area along Beavercreek Road (and areas of south Oregon City) as part of a new community/job connector service in the neighborhoods in South Oregon City. The community/job connectors are identified to serve areas that would be uneconomical with full-fledged TriMet service. This vision recommends community/jobs connector service in places where the businesses and/or homes are so scattered or are located on so much land that there aren't enough people within walking distance of bus stops to cost-effectively provide traditional fixed route bus service. In some instances there aren't enough roadway connections to allow people to walk to and from bus stops safely. The Clackamas Industrial Area, generally between Highway 212 and Sunnyside, and South Oregon City are candidates for community/jobs connector service in the Southeast. The Beavercreek Road Concept Plan mentions that transit-oriented land uses have been strategically located to increase the feasibility of transit service in the future. In order for any transit service to be successful, the area would need to develop at appropriate densities to warrant service. The City may consider a future request that TriMet consider re-routing an existing line onto Meyers and Beavercreek Road once the Meyers Road extension is constructed and development begins to occur in the area.

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7.	Option to retain full interchange project	How can we ensure that the larger improvement project ideas are not lost and remain future possibilities?	The City is required to update its Transportation System Plan every 10 years. During the next TSP update, the City will study the HWY 213/Beavercreek Road intersection to determine if it will operate within the standards through 2045. If operations are shown to be above the adopted standard, the City will need to consider these larger improvement projects to improve capacity. Staff advises against adding a project at this time when models show that the City can meet the 1.0 v/c standard through 2035 without a large project. If the City were to add a larger improvement project to the current TSP, it would have to also add the project to the SDC list, which would further raise already high Transportation SDC rates. Alternative #3 (Southbound Displaced Left) provides nearly the same capacity as a full interchange, at a fraction of the costs. Other solutions analyzed through this process may also be viable projects in the future, such as the triple
8.	V/C Ratio	 What does v/c 1.0 feel like? Aren't we just going to exceed the standard in a few years and be back where we started? 	left turn alternative. The v/c ratio, also referred to as degree of saturation, represents the sufficiency of an intersection to accommodate the vehicular demand. A v/c ratio less than 0.85 generally indicates that adequate capacity is available and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow increases, and delay and queuing conditions may occur. Once the demand exceeds the capacity (a v/c ratio greater than 1.0), delay and queuing is expected. Under these conditions, vehicles may require more than one signal cycle to pass through the intersection (known as a cycle failure). For design purposes, a v/c ratio between 0.85 and 0.95 generally is used for the peak hour of the horizon year (generally 20 years out). Overdesigning for an intersection should be avoided due to negative impacts to pedestrians associated with wider street crossings, the potential for speeding,

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			land use impacts, and cost. Models show that we will stay within the standard through 2035.
9.	Freight impact	Will accepting higher congestion at this intersection hurt freight movement?	Peak freight movement occurs between 9AM and 3PM. The intersection operations are acceptable during these hours. The proposal to change the mobility standard only applies to peak hour (3-6PM) travel.
10.	Funding constraints	 Why can't ODOT or the County fund these improvements? The City should demand that ODOT help with costs and should build the full interchange improvement as soon as possible. 	The larger transportation bill at the state level is looking at I-205, I-5, Highway 217 and larger projects in the Portland region, where congestion affects a larger portion of the day and impacts freight movement more significantly. State priorities include Highway 217 widening, Cornelius Pass widening, completing the Sunrise Corridor project and upgrading the I-205 Abernethy Bridge. Hwy 213 is not a priority compared to these projects. Clackamas County priorities are focused solely on maintenance. The City is committed to nominating both the Redland project and the Beavercreek project for inclusion in a potential regional bond measure that is being considered. Local funds that can be used to fund City transportation projects include System Development Charges (SDCs) and gas taxes. SDCs are paid by new development and they apply to all development, even in enterprise zone areas. SDCs can only be reduced if a developers build improvement projects themselves that would otherwise be funded by SDCs. Fees could be collected from city residents via utility bills, in a similar fashion to the pavement maintenance fee. When sewer capacity upgrades were necessary, the City raised sewer rates citywide in order to afford the upgrades. The City also analyzed what a local bond measure would mean if city

Issue	Description	Specific Concerns	Explanation or Proposed Change
			residents voted to pay for a \$10M project here – Each household would be assessed an average of \$769. A \$50M project would mean an assessment of almost \$4,000 per household. No new fees or bond measures are proposed at this time. In a separate process in spring 2018, the City Commission will be considering SDC rate changes based on the new project list.
11.	Seaside, OR example	The City of Seaside adopted alternate mobility standards recently and we should learn from their experience	Staff reviewed the information about the Seaside Alternate Mobility Standards provided by Paul Edgar, and confirmed with the City of Seaside that the mobility standards are approved and officially adopted. The Oregon Transportation Commission approved a 1.0 mobility standard for four intersections along Highway 101, based on average annual conditions. The number of hours the new standard applies varies for each intersection with the maximum being 3 hours (from 3 to 6PM) for the intersection of US101 and Broadway. The standards used in Seaside, as approved by the Oregon Transportation Commission, are the same or very similar to what is being proposed for Highway 213 in Oregon City. Seaside similarly adopted transportation projects to enhance bicycle and pedestrian connectivity and safety in the area. They also invested in parallel local routes and made agreements with ODOT regarding pursuit of funding for bike, ped, and local street improvements.