

## MEMORANDUM

**To:** Mandy Putney, ODOT Office of Urban Mobility  
**From:** Mike Bezner, Assistant Director of Transportation  
**Date:** September 15, 2022  
**Subject:** Clackamas County Staff Comments on I-205 Tolling Project Transportation Technical Report

Below are the comments of Clackamas County staff on the I-205 Tolling Transportation Technical Report. We appreciate the mitigation meetings and the opportunity to review the I-205 Tolling Project Transportation Technical Report. We realize that the following is very long. To make it easier for the ODOT team we have structured our comments on the TTR to focus on our overall comments and concerns at the beginning of this memorandum, followed by a listing of issues and questions organized by page. We would appreciate it if we were provided the opportunity to review the revisions to this report, including any additions, before the report is finalized and used for analysis of impacts in the EA. Please feel free to contact us if you have questions regarding any of the comments.

### **Overall Comments:**

**Transit** – Transit improvements in the project area should be recommended. Included should be transit parallel to I-205, on-going funding for Ride Connection/SMART Shuttle service that will soon be launched, and increased transit capacity in Willamette and surrounding rural areas.

**Bike** – The TTR identifies bike mode issues but fails to recommend improvements. Issues that should be addressed include:

- 10 of 16 intersections in the API currently experience a Level of Traffic Stress of 4, the highest level.
- There is no bikeway parallel to I-205, either along the I-205 Right-of-Way, or on the local system.
- There are no bikeway facilities along OR 99E south of Oregon City
- The majority of study corridors have bicycle level of traffic stress of 3 or 4.

**Pedestrian** – Does not address the fact that significant portions of the parallel facilities (Borland and Willamette Falls) do not have sidewalks.

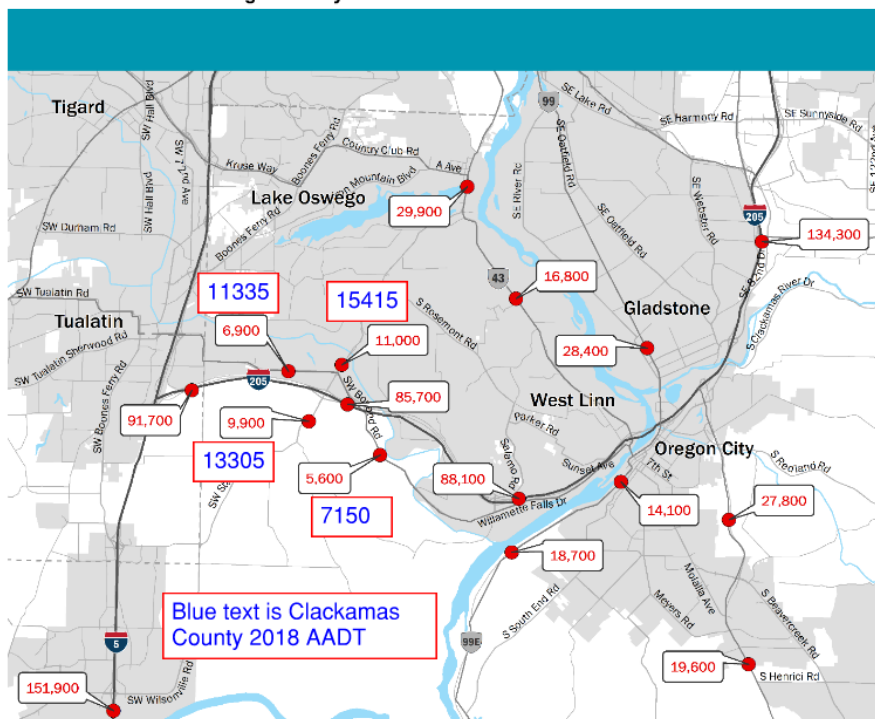
### **Freight**

- Trucks primarily use I-205, but this report does not identify and discuss the impact of increased truck volume on OR 99E
- The TTR shows increased travel time for freight in Build in the morning peak (5-6 AM)

## Transportation Safety

- Pedestrian crash numbers are higher along the other corridors (not I-205) due to the presence of pedestrians in the area where there are heavy traffic volumes. This is an important negative impact of the toll project that should be identified in the TTR.
- Bicycle crash numbers were higher where both bicycle and motorize traffic volumes are relatively high.
- Intersections have been identified that are currently over the critical crash rates due to increased traffic volumes on roads off the interstates.
- There are segments of OR 99E in Canby as well as along Borland / Willamette Falls Dr that are over the critical crash rates
- Predicted number of crashes increases for numerous corridors in the Build scenario
- The TTR anticipates a significant increases in crashes at intersections on Stafford Road except Childs and Johnson where Clackamas County has a project underway
- The report shows significant increases in crashes on Stafford Road, OR 99E, and Willamette Falls Drive.
- ODOT’s summary of crashes on I-205 in No-Build vs Build shows some crash values that seem really high. Reporting 2,670 freeway crashes per year in 2045 No-build vs 2,122 crashes in 2045 Build
- The numbers in Attachment X do not match those in the report (527 and 363 crashes respectively, not 2,670 and 2,122). This discrepancy should be resolved before this report is used in the EA.
- A comparison of the Pre-pandemic (2019) daily traffic volumes with daily traffic volumes collected by Clackamas County and ODOT in 2019 shows that the volumes in the TTR are significantly lower. The map below compares Clackamas County 2018 AADT with TTR volumes at the same locations.

**Figure 4-4. Pre-pandemic Year (2019) Daily Traffic Volumes in Area of Potential Impact and Surrounding Roadways**



- The future traffic volumes are very inconsistent. The TTR shows a significant reduction in volume on I-205 east of Stafford in the No Build vs Build comparison (more lanes but 20,000 fewer trips in the Build) and very large volume increases on Borland and Willamette Falls Drive. We suggest that these volumes should be reviewed and verified.
- County standards are not  $v/c=.99$  everywhere. In fact, that only applies to some ODOT highways and some roads within certain areas. I believe most county roads are .9 or LOS E. If this changes, so does the mitigation needed

#### Tolling before the completion of roadway improvements

- Analysis indicates that tolling only the Abernethy Bridge may result in 10%-15% reduction in average weekday traffic volumes through the project corridor with the highest reduction on the Abernethy Bridge itself. Tolling on both the Abernethy and the Tualatin River bridges could result in average weekday traffic reduction ranging between 20%-30% through the project corridor with the largest reductions occurring on the two segments that include the toll gantries. (p 64)
- Volumes on the local roadways would increase most significantly along Borland and 99E south of Oregon City
- Daily volumes on Borland Road east of Stafford, and OR 99E South of Oregon City showed that daily volume may increase 5% - 10% in the Build vs the No Build.
- Based on the assessment, impacts resulting from the pre-completion toll scenarios will be comparable to those caused by the 2027 Build Alternative with all of the roadway improvements completed. These would be significant reductions considering the I-205 would still be 2 lanes in each direction and that traffic would experience construction related delays.
- No analysis was report for pre-completion tolling (3 years – 2024-2027)

#### VMT/VHT

- The report shows minor decreases in regional VMT with minor increases in VMT on local/non-highway roads
- VHT reduces during peak hours

#### Mode Shift

- Extremely minimal mode shift anticipated. As was noted previously, there are no parallel bike, pedestrian and transit facilities.

#### Average trip length

- Remains the same throughout the region

#### Volume Increases

- Roads with greatest increase in volumes in 2045 are all on local serving roadway corridors. While I-205 volume decrease 25%.
- "Rerouting analyses...indicate that shifts in traffic routing away from I-205 to local routes...may be greater than 50% for some travel patterns." ODOT's proposal to mitigate their proportion of

added congestion is leaving out the already existing significant diversion due to this being the only Metro section of I-5 or I-205 without a third lane. None of the other jurisdictions had to pay to accommodate diversion from a 2-lane highway, but that is exactly what ODOT this is proposing for I-205. Mitigation should be based on the difference between tolling all lanes and having 3 untolled lanes in each direction. Otherwise, local jurisdictions are taking on the burden paying for improvements to the existing undersized highway. Clackamas County pushed for this project to help with the significant current diversion. Instead we're being told that the existing diversion is our responsibility, and ODOT project will be making it worse (and providing a small \$ contribution, that will be useless since no one has the significant match \$ required to actually build anything).

- Borland Road (31%) – Borland, Schaeffer and Willamette Falls drive are expected to increase in volume. Borland between Stafford and 10<sup>th</sup> street will experience an increase in volume 97% in west bound AM Peak (P 83)
- Average daily volumes along Borland increase 50%-60% (year 2045)
- Average daily volumes on the Arch Bridge increase 40%-50% (year 2045)
- Average daily volumes on 99E South of Oregon City increase by 11%, and carry nearly half the volume of I-205
- Average daily volume increases around Canby range from 10% – 30% in 2045
- Most notable increase in peak hour volume change occur near the tolled segment between Stafford Road and 10<sup>th</sup> street and along OR99E. Borland, Schaeffer Rd, and Willamette Falls Drive are parallel routes that are expected to receive more peak hour volume especially in the west bound direction under the Build alternative. People are rerouting trips to avoid the Abernethy toll.
- Traffic diversion will be different for I-205 versus I-205 and I-5. The traffic analysis is inherently flawed without looking at the broader tolling context as impacts may shift to other roads, worsen or make some current improvements unneeded

#### Traffic Operations

- I-205 continues to have experience failure north of Abernethy bridge with v/c greater than .93, but otherwise operational measures are achieved or operations are improved.
- Project will result in a stable 11-12 minute southbound trip through the AM peak

#### Travel Time On Key Study Corridors

- Stafford – there are decreases in travel time due to few trips wanting to access the northbound I-205 tolled facility. Without the “Build” the northbound I-205 will back up and cause significant delay
- Borland/Willamette Falls peak hour travel time changes were expected to be relatively minor. The Build alternative is addressing some of the current rerouting that is occurring due to congestion on I-205
- In the Build scenario Oregon City Main street corridor will experience travel time increases of 8 minutes over No Build in the PM. Biggest increase to travel time during the peak is on Oregon City Main street

- Travel time south bound on OR 99E to Canby will experience increase in travel time in AM and PM peaks 1.3 min / 3 min

#### Transit

- Table 5-20 Travel times for transit service corridor should clearly identify which corridor will actually have transit service. Clearly show the proposed route of transit service and be clear that it is not proposed to be parallel to I-205.
- Should note that although travel time for busses that travel along 99E from Canby to Oregon City will not increase, there will be increased volume.
- Tolling does not result in increased ridership (Table 5-22, p 128). A marginal increase occurs in 2045.

#### Bicycle

- The evaluation using the Level of Stress ranking is very general and does not specifically identify those areas where bicycle use worsens.
- Clackamas County has a project on Borland (#1082) to add paved shoulders per the adopted Active Transportation plan that has not been included.

#### Pedestrian

- Pedestrian level of stress is evaluated for locations that do not have sidewalks. The report should clarify the locations where there are no sidewalks and clarify that these are rural conditions.
- Pedestrian level of stress only worsens in two locations
- Clackamas County does not have planned pedestrian improvements on Stafford and Borland
- The Arch Bridge is a very important high usage pedestrian and bicycle route, but it is also a narrow, high volume vehicle route. There should be a discussion of the issues related to the Arch Bridge and the condition of the bridge.

#### Detailed Comments:

- Page 1 – In the last sentence, there is a reference to an “I-205 Toll Project and Improvements Supplemental Impact Analysis Technical Report. Will this report be provided to the local governments for review?
- Page 1 - The EA evaluates effects of the I-205 Toll Project on "the portion of the I-205 Improvements Project funded by tolling". This means the Abernethy Bridge is not covered, and is not funded by tolling. Will ODOT be able allowed to come back later and use tolling funds towards it?
- Page 7 – What measures will be applied to the toll gantries and equipment associated with the toll gantries (structure, back-up generator and stored fuel, etc) to mitigate the safety issues resulting from these fixed structures within the right-of-way?
- Page 8 – How would the toll gantries and related structures be accessed – from I-205 or from local roads. If access is provided from local roads, will ODOT observe local government requirements for placement of access points and driveways.

- Page 8 – When will the toll gantries be constructed – before, after or at the same time as the other I-205 improvements? If the toll gantries will be constructed at the same time or after other I-205 improvements, how will ODOT collect tolls before the construction of the I-205 improvements as has been previously stated by ODOT representatives?
- Page 8 - It appears that local trips that don't go over the Abernethy or Tualatin River bridges won't pay a toll, i.e. trips between 10th street and Highway 43. If correct, that's a big deal, and explains some of the traffic aberrations.
- Page 9 – In the paragraph entitled “Interchange Improvements” the last sentence states that “The Broadway Street Bridge overcrossing would be removed to enhance the function of the consolidated interchange.” Parking is accommodated on both sides of that bridge and is mainly used as overflow for the nearby school. Will ODOT provide additional parking in the area to mitigate the loss of the existing parking on Broadway Street Bridge?
- Page 9 – The report states: "The third northbound lane for the OR213 to Abernethy Bridge section would be completed during a later phase." What does this mean? There would still be a bottle neck in that section of I-205? Is this funded or not?
- Page 10 – Which intersections just missed inclusion using the 3 criteria? Given the standard error in modeling and forecasting, borderline intersections/segments should be identified and included in the planning. An example is the intersection of Stafford Road and Mountain Road included in the planning, especially given the peak-hour adjustment factor analysis on page 19.
- Page 11 and 12 – All the intersections and road segments identified as being within the Area of Potential Impact (API) are in Clackamas County or in Oregon City, West Linn or Gladstone. The RTDM output shows that there are many roads segments and bridges in Multnomah and Washington counties that also meet the identified criteria for inclusion in the API. Will the analysis in the TTR be extended to include those road segments and bridges?
- Page 16 and 17 - On pages 16 and 17 there is a description of “Pre-completion Tolling Conditions.” The TTR states in the second paragraph of page 17 that the “Pre-completion” tolling scenarios were analyzed to assess the rerouting impacts related to tolling during construction. Clackamas County is very concerned about the impact of tolling before and during construction of the proposed build scenario improvements. We would like to request that ODOT provide the RTDM output in GIS format for the two Pre-completion Tolling Conditions.
- Page 17 – In Table 3-1 there is a reference to a multimodal analysis and also a safety analysis for the Existing Conditions, 2045 No Build and 2045 Build. Could you please tell us which modes will be included in that analysis (transit? ped? bike?) and how the multimodal analysis was conducted? Also, could you please tell us how the safety analysis will be prepared for the local roads that will be impacted in the Build scenario?
- Page 17 – The TTR states that two of the “Pre-completion” Tolling scenarios (one tolling Abernethy Bridge only and the other including tolling across the Tualatin River bridges) were analyzed to assess the rerouting impacts related to tolling during construction and that the Project Team used output from the RTDM for this analysis. At the mitigation meetings the consultant team stated that this wasn’t done. Which is it?
- Page 22, Table 3-4 – This table shows that one of the analysis parameters was crash data but the method was not described. How was the crash data used to forecast future crashes for intersections and road segments in the API?

- Page 23, 3.9.1 Volume to Capacity Ratios - the TTR states that the “principle performance measure that ODOT uses when evaluating motor vehicle operating characteristics on the state highway system is v/c ratio. This description should clarify which V/C ratio is used. Is it the overall 24 hour V/C for the segment or intersection? Is it the daytime V/C or the one or two hour V/C ratios for the AM or PM peaks. The V/C for a longer time period such as 24 hour or day time will be lower because of the inclusion of lower travel periods of the day. We think the V/C should be for the identified AM and PM peak hours as identified in Table 3-2 on page 18.
- Page 23, 3.9.2 Average Vehicle Delay – The average vehicle delay should be identified for the AM and PM peak hours since in many cases there will be no delay at all during the off-peak hours, but high amounts of delay during the peaks.
- Page 23, 3.9.3 Level of Service – We are concerned that using the LOS defined as “average vehicle control delay” may not accurately represent LOS at an intersection. We believe that some of the intersections will have very high vehicle control delay on one or two of the movements in the intersection which will impact the operation of the intersection but only have a limited effect on the average vehicle control delay.
- Page 24, 3.9.4 Multimodal Level of Service – This section states that “Multimodal level of service (MMLOS) analysis can be used to measure the performance of bicycle, pedestrian, and transit facilities.” The analysis for transit and pedestrian travel is described in this section, but there is no discussion of the analysis method for bicycles. The description of the bicycle MMLOS analysis method should be added to this section.
- Page 24, 3.9.6 Queuing – This section states that “Queues exceeding the safe storage capacity were identified as unacceptable, and strategies for addressing the issues were developed.” What are the strategies for addressing excessive que lengths? Since most of the intersections with excessive queuing are on local road systems, will the county and cities have the opportunity to review and comment on the identified strategies?
- Page 24 - 3.9.4 states "This analysis uses the ODOT APM methodology for transit LOS and pedestrian LOS." Does this apply to county or city roads? Same question for 3.9.5 (next paragraph).
- Page 25, 3.9.9 Vehicle-Miles Traveled – The description of this measure describes the calculation of VMT for links. It then states that “Regional VMT was generated through the regional travel demand model.” The VMT on each road segment is an important measure for the local governments as an indicator of local impacts. The county requests that the data be provided for all road segments for review.
- Page 25, 3.9.10 Vehicle-Hours Traveled – Vehicle-Hours traveled is also an important measure for the local governments and the county request that the data be provided for all road segments for review.
- Page 25, 3.10.2 Future Conditions – This paragraph states that “The Build Alternative’s potential impacts on safety conditions within the API was assessed for all modes at intersections and along identified study corridors that would changes under the Build Alternative.” What was the measure used to determine if there had been a change in the safety conditions such that the assessment of safety conditions for the Build Alternative was necessary?
- Page 26, 4.1 – Stafford Road is a major arterial, not a minor arterial as stated in the TTR

- Page 27, 4.2.1 Origins and Destinations of Current I-205 Corridor Users – It is impossible to determine the reasonableness of this data without knowing the source. Please add a sentence or two identifying the source(s) of this data.
- Page 27 - 75% of users of this section of I-205 enter or exit here, which means they also use the local roads. This hardly seems fair then to toll the local users, which will result in more congestion on the local roads.
- Page 28, Figure 4-2- 19% of trips internal to API are likely to switch to surface streets versus being charged for tolls. Please make sure this source of additional traffic is factored in.
- Page 28, 4.2.3 Current Rerouting off I-205 during Times of Congestion – Although this seems reasonable, it is impossible to determine the reasonableness of this data without knowing the source.
- Page 29 – Figure 4-3; Reroute roads – Stafford, Borland - add - Schaeffer, Petes Mtn
- Page 30 – Figure 4-4 ADT's on Stafford Road are wrong – Stafford – 9900 should be 14,000; 11,000 should be 16,000.
- Page 33 & 34, Table 4-2 and Table 4-3 - The data in this table is very interesting but needs to identify the source. Listing the source as another internal ODOT report is not helpful.
- Page 38 & 39, Table 4-5 Existing (2021) Intersection Operational Analysis Results AM Peak Hour and PM Peak Hour – On lines 29 and 46 of this table V/C is shown as exceeding 2.0. Is it even possible for the volume to capacity ratio to exceed 2.0?
- Page 39 – Clackamas County does not have  $v/c=.99$  as a standard for many intersections. In fact, that standard only applies to some ODOT highways and some roads within certain areas. The standard for most county roads is a  $v/c$  of .9 or LOS E. If this changes, so does the mitigation needed.
- Page 39 – Table 4-5 - Our reports are that Stafford/Rosemont is over capacity – study shows AM=C; PM=A. Could you please provide an explanation for this inconsistency.
- Page 40-41 - Tri-Met is currently proposing significant changes to transit in this study area, including elimination of the Willamette line. These changes will impact the findings of this TTR and the EA study.
- Page 51 - OR 43 is not a good pedestrian experience at all in West Linn. Feels dangerous and not a lot of people use it.
- Pages 52 – 56, Figures 4-11 to 4-14 – The freight data is very interesting. What is the truck volume forecast for both the No Build and Build scenarios? How much truck traffic reroutes off I-205 in the Build scenario?
- Page 57, Table 4-12 – The title for Table 4-12 should be “Area of Potential Impact Corridor Crashes by Severity (2015 through 2019)
- Page 60, Table 4-15 – The crash rate analysis for OR 99E and S New Era Road shows an intersection crash rate of 2.99 and a critical crash rate of 1.12. Is that correct? If so, that is a ridiculously high crash rate and indicative that intersection improvements are necessary.
- Page 60 - Zero crashes at Stafford Mountain from 2015-2019? Is that true?
- Page 60, Table 4-15 - Oatfield/Jennings intersection – didn't see any mitigation
- Page 61 - Surprised that Stafford is does not have a crash rate above the critical crash rate. The Build scenario shows a sharp increase in crashes.



- Page 63 to 65 - 3 years is a very long time for the interim impacts of tolling without the capacity improvement. As noted in the TTR diversion could be substantial, a high level assessment is not enough for this issue.
- Page 64 – Table 5-1 - Diversion numbers are 20,000-50,000 vehicles per day. Is tolling simply a method for moving trips off I-205 and onto local roads that are not suited for that increase in traffic?
- Page 64, Table 5-2 - Abernethy Bridge shows a reduction in traffic of nearly 50,000 vehicles per day. However, the only other crossing south of Multnomah County is the Arch Bridge! That's a huge number with no plan in place to deal with it. What is the mitigation plan?
- Page 64, Table 5-1 – If I understand this table correctly Pre-Completion Tolling of Abernethy and Tualatin River Bridges will result in rerouting 35,005 daily trips to the local road system
- Page 66, 5.3.1, "...VHT would also decrease slightly for limited-access roadways and increase slightly for arterials under the Build Alternative as compared to the No Build Alternative." Moving trips from limited-access to arterials should not be the goal and shouldn't be acceptable. It would be a good thing if those trips moved to a different mode. But, as is stated in the TTR, that's not what's happening. (See also Table 5-5 on P. 72)
- Page 66 - "...impacts resulting from the pre-completion toll scenarios (i.e. diversion to local roads) would be comparable to those caused by the 2027 Build Alternative with all anticipated roadway improvements completed and would be temporary in duration (2 to 3 years)". This is a small sentence that contains a lot. Borland Road in particular is showing a 112.3% traffic increase. This is significant. It is hard to understand how a toll with only 2 lanes of traffic on I-205 will have similar diversion as 3 lanes. It is clear from this statement that the EA should include a thorough assessment of construction impacts.
- Page 68, Fig 5-3 - Diversion is significant late at night. Tolls should be eliminated in order to keep those trips off of dark, windy, narrow roads and onto well-lit, wide highways. The revenue raised late at night is minimal at best, and there are significant safety implications.
- Page 73, Table 5-5 – This table shows the change in trip mode in 2045 between No Build and Build alternatives. The shift in travel mode is miniscule, only 3,000 trips. A column should be added to this table showing the percentage of trips that shift modes so that the readers can understand how small these changes are. Our calculation is that the Build will reduce SOV trips by 0.057%, increase HOV trips by 0.046%, increase transit trips by 0.115% and increase active transportation trips by 0.016%.
- Page 74, Figure 5-7 - 2045 numbers for Stafford and Borland, if based on earlier existing volume figure are wrong since the existing volume figure was wrong. According to Clackamas County traffic counts the ADT's for these roads are much higher.
- Page 74-75 - What is the change in daily volume on 12th in West Linn? And Ek?
- Page 75, Figure 5-8 – The figure shows the change in volume from No Build to Build due to tolling. Several of the roads most impacted by rerouting are not shown in this figure. For example Table 5-3 on page 66 shows an increase for Borland Rd east of Stafford Rd in volume of 112.3% in the NB/EB direction and 90.4% in the SB/WB direction. In the same table, very high increases in volume are also shown on non-interstate roads such as OR 99E west of Lone Elder Rd, OR 99E east of Redwood St, and Stafford Rd south of Borland Rd. Figure 5-8 portrays

a misleading impression of the traffic impacts off the interstates due to tolling and should be completely removed from this report.

- Page 76, Figure 5-9 – This figure provides a much better view of the volume changes off the interstate than is portrayed in Figure 5-8.
- Page 76, Fig 5-10 shows the true impact of tolling. This section of I-205 won't be tolled and all of the surrounding local roads will have less traffic. This is what I-205 was envisioned to do when our county first fought for it.
- Page 74 – Figure 5-7: 2045 numbers for Stafford and Borland, if based on earlier existing volume figure are wrong since the existing volume figure was wrong. ADT's are much higher, per Clackamas County traffic counting.
- Page 77, Fig 5-12 - No mitigation for Ehlen Road despite 50-60% increase in traffic? ODOT and Marion County are currently making a major investment on Ehlen Rd and OR 551 to reduce existing delay and safety issues. Has this proposed impact of tolling I-205 been discussed with Marion County and ODOT Region #2?
- Page 78, Table 5-7 – In this context the change in volume into and out of the API is meaningless. Traffic enters or travels through API for a reason - those traveling to or through the API have few other route choices, without miles of out of direction travel. As a result, traffic will continue to travel to or through the API.
- Page 83 - "Under the 2045 No Build Alternative, all segments along northbound I-205 would meet the mobility standard (v/c ratio of 0.99 or less) during the AM peak hour and PM peak hour." That statement begs the question of why tolling of I-205 is proposed. Similar statement about southbound on Page 87.
- Page 87 – Why V/C of 0.75 for Build but 0.99 for No Build? The Clackamas County standard for an unsignalized intersection outside the UGB is LOS E or v/c of .9.
- Page 96 – "...the improvement provided by adding capacity to I-205 under the Build Alternative would reduce the amount of rerouting to Borland Road." Without the imposition of tolling, of course that is a true statement, the improvements would reduce rerouting to Borland Road. However, once tolling is applied rerouting traffic increases significantly on Borland Road as well as other local roads in that area.
- Page 99 - Figure 5-23; if the 2045 analyses don't include regional tolling as is being studied in the RMPP, then they are not accurate since regional tolling will likely result in broad changes to regional travel patterns.
- Page 99 – Travel time figures: With congestion on the local system increasing as a result of tolling, people with means will use I-205, creating an equity issue for those with lower incomes.
- Page 108, Table 5-14 – while corridor travel time doesn't change much, if intersection performance changes, such as at OR99E/15th where it goes from 97 sec of delay to over 269 under the build – the travel times are going to rapidly increase. There seems to be a disconnect in the analysis between intersection and segment performance.
- Page 109, Table 5-14 - OR99E/South End Rd is shown with a V/C of 3.51. That is nonsensical. What is the true impact on OR99E/South End Road?

- Page 110, Table 5-14 - Stafford/Mountain – V/C from 1.24 to 2.1 – This indicates that the entire Stafford Corridor will need to be reconstructed and improved to meet both operational and safety performance goals.
- Page 111 - Stafford Ek signal goes from a v/c of .53 to .95, but with much less delay (which you explain but I don't quite get). Also, as noted, the county standard for this signal .9 and not .99.
- Page 112 – Stafford/Mountain intersection goes from a v/c of .8 to >3, but delay goes from 213 seconds to 19 seconds? We would like a fuller explanation of this in the TTR.
- Page 113 – Table 5-15: the performance of 99E can't be looked at as individual intersections due to queue spillback, so the LOS as shown really don't mean anything. A more realistic method of analysis should be applied.
- Page 114 - Table 5-16 shows that 10th Street I-205 ramps will back up almost 1/2 mile in AM. Page 115 simply says "Strategies will be developed to address..." That's vague. What is mitigation strategy for this lengthy backup?
- Page 116 – Stafford/Mountain should be mitigated. This route leads to a residential neighborhood with narrow streets, a park entrance, and a school frontage in West Linn. It's not an appropriate cut through. High increases in traffic on this route will result in significant safety issues.
- Page 117 - Where did .99 v/c for 99E in Canby come from? 99E and Ivy has a Build v/c of .97. Given these high v/c ratios we believe that this increase in traffic should be mitigated.
- Page 125 - Tri-Met is currently proposing significant changes to transit in this study area, including elimination of the Willamette line. Will impact of this change be included in NEPA study?
- Page 131 - What is mitigation is proposed for impacts to biking on Stafford and Borland? Same for peds on page 135.
- Page 136 - There should be a review pedestrian safety along 99E through OC between the RR tunnel and OC Shopping center. Make sure safe walking places for pedestrians are available.
- Page 138 - What is the safety mitigation for Stafford? This is a significant increase in crashes on a county road.
- Page 141 - How does the number of crashes on Borland go down when the traffic increases? That finding should be reviewed and further explained.
- Page 142, Section 5.3.7 - Crashes go up on most local road system corridors between no build and build. By tolling I-205 ODOT is shifting the burden to the local system and not providing necessary mitigation to allow local agency to meet their own safety performance goals. We would like to see a table in the report that shows the increase in delay and crashes on local roads between the No Build and Build scenarios.
- Page 142, Table 5-41 - Why aren't crashes on the non-highways broken down like this? Also, the data in this table seems nonsensical - 2,670 crashes per year on I-205 in No Build? That is impossible to believe. Over 7 a day? Or does this cover more than 1 year?
- Page 151 – We appreciate the mitigation meetings. Overall the report clearly indicates that changes will need to be made. We would like to request the opportunity to review the revised version of this report including any new proposals before this report is finalized and used in the

EA. Going forward, county would ask that ODOT work with the local agencies in setting up the monitoring program in advance of making decisions

- Page 152, 6.1.1 – The intersection of 99E/South End will be very challenging to signalize due to rock work, ROW and railroad. ITS features will need to be used to warn of the sign and stopped vehicles. ODOT's own studies show that rural traffic signals typically have higher crash rates than other forms of traffic control. The safety of the intersection and entire corridor should be more carefully reviewed.
- Page 152, 6.1.1 – The entire downtown Oregon City area should be modeled using a micro simulation model due to all the queue spillback and influence from adjacent intersections. The street system in downtown Oregon City cannot be properly reviewed as isolated intersections. The area of impact is from 2nd St at 99E to the Dunes signal on 99E and High street, 7th, Washington and the from 2nd through Main street Extension
- Page 152, 6.1.1 – The intersection of 99E at Lone Elder will be extremely expensive to signalize due to grades, topography and alignment.
- Page 153, Table 6-1 – 99E at New Era needs to include the intersections of New Era/Haines in the design. If it's signalized, ODOT should consider median installation in 99E and allow u turns at the following intersections: New Era, Territorial, the new signal that Canby is building and Sequoia. This would help offset the safety impacts of traffic volume increases.
- Page 154, Table 6-1- 99E at 10th – creating a dual southbound LT won't function well since most traffic goes straight and up Singer Hill. The dual left would create weaving, more crashes or very unbalanced lane utilization.