

I am asking the City Council to once again deny the application for Upper Midhill, LLC (the Applicant) to develop a 34-lot subdivision because there are not adequate public facilities. Specifically, the Applicant does not provide sufficient mitigation to meet all existing demands nor will it satisfy projected demands from projects with existing land use approvals, plus the additional demand created by the application. Further, off-site facilities will remain noncompliant with some applicable standards.

### **Background: Inadequate Public Facilities and Applicant's Proposed Mitigation**

The Applicant has proposed to build a 34-lot subdivision and off-site vehicle only traffic mitigation at the intersection of Hwy 43 and Arbor Dr. But the result of this development is increased automobile, bicycle and pedestrian traffic without the adequate public facilities to meet its demand. To approve the application, the Applicant is required, by CDC 85.200, to provide a burden of proof that adequate public facilities exist.<sup>1</sup>

Upper Midhill, LLC, in its application, has proposed that it will mitigate the primary issue arising from the development by restriping Highway 43 to provide a two-way left-hand turn lane.

However, the Applicant's proposed mitigations are insufficient for several reasons. First, the Applicant's traffic analysis on which the proposed mitigation is based is critically flawed and biased in favor of the Applicant. The result is that the Applicant is not providing an accurate picture of the demand on these critical public facilities. Second, even if the Applicant was providing an accurate picture of the increased traffic, its proposed mitigation of restriping Highway 43 to provide a two-way left-turn lane is insufficient to address existing and projected demands. Third, the Applicant's proposed mitigation of restriping Highway 43 will further reduce already narrow pedestrian travel lanes the result of which is pedestrian facilities that are inconsistent with ADA and other applicable standards. Finally, the Applicant's proposed mitigation of reducing traffic at Highway 43 and Arbor by utilizing side street connectivity creates dangerous conditions for pedestrians and cyclists on those side streets.

### **(1) Flawed Methodology used in Developer Traffic Analysis**

Under CDC 85.200, Midhill has an obligation to "(2) satisfy the projected demands from projects with existing land use approvals, plus the additional demand created by the application." In order to do this, the Applicant has done a traffic analysis which claims to be accounting for the estimated trips generated from projects with existing land use approvals at Mary's Woods and

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<sup>1</sup> CDC 85.200 provides: "**Adequate public facilities.** Public facilities that must be adequate for an application for new construction, remodeling, or replacement of an existing structure to be approved are transportation, water, sewer, and storm sewer facilities. To be adequate, on-site and adjacent facilities must meet City standards, and off-site facilities must have sufficient capacity to (1) meet all existing demands, (2) satisfy the projected demands from projects with existing land use approvals, plus the additional demand created by the application, and (3) remain compliant with all applicable standards.

For purposes of evaluating discretionary permits in situations where the level-of-service or volume-to-capacity performance standard for an affected City or State roadway is currently failing or projected to fail to meet the standard, and an improvement project is not programmed, the approval criteria shall be that the development avoids further degradation of the affected transportation facility. Mitigation must be provided to bring the facility performance standard to existing conditions at the time of occupancy."

the new duplexes on Willamette Dr.<sup>2</sup> but may not have provided sufficient proof of doing so. If the Applicant has not provided, for public review, the estimated trips generated from other projects in the region and their impact on the TIA this is unacceptable. The Applicant should deliver the trips generated in their original format so that its claims can be validated.

In addition, the Applicant has suggested that it has done the appropriate supplemental traffic counts<sup>3</sup> but has not provided the supplemental traffic counts for City Council or public review, so it is again asking the City Council and the public to trust that they are properly applied to the analysis. This is unacceptable, the supplemental traffic counts should be provided in the same format as the original traffic counts done by Quality Counts in June 2015 "Appendix A Traffic Counts, Pages 84-95". Further, the public should have all mathematical formulas used to balance and seasonally adjust. Without this data, there is no way to verify that this analysis was done in accordance with approved methodologies without just "taking the word" of the Applicant.

"KAI testified that this adjustment was sufficient to account for trips in-process developments such as the new duplexes on Willamette Drive and the expansion of Mary's Woods. Id. Stated another way, if KAI had separately added in trips from in-process developments and assumed a two percent growth in area traffic, it would have resulted in double-counting of these background trips." (RECONSIDERATION, page 18)

Without access to the data used to account for trips in-process developments we should consider the KAI testimony invalid as the City Council cannot verify that they are accurate or unbiased in favor of the Applicant. Given current regional traffic growth in West Linn and other areas served by Highway 43, we can assume a one percent per year growth to be insufficient. With our safety at stake, the public deserves to know how different growth assumptions would impact the analysis. Without the raw data used in these assumptions, we cannot verify them as accurate.

Not only is the information provided by the Applicant incomplete, but it appears to be based on faulty assumptions as well. For example, the Applicant seems to suggest that it can account for only typical heavy weekday traffic and ignore new and atypical construction traffic generated by the development.<sup>4</sup>

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<sup>2</sup> "This increase accounts for the new duplexes on Willamette Drive, which were under construction when the traffic counts were conducted, and the expansion of Mary's Woods, which is not expected to occur until after full build out of the proposed development." (RECONSIDERATION, page 18)

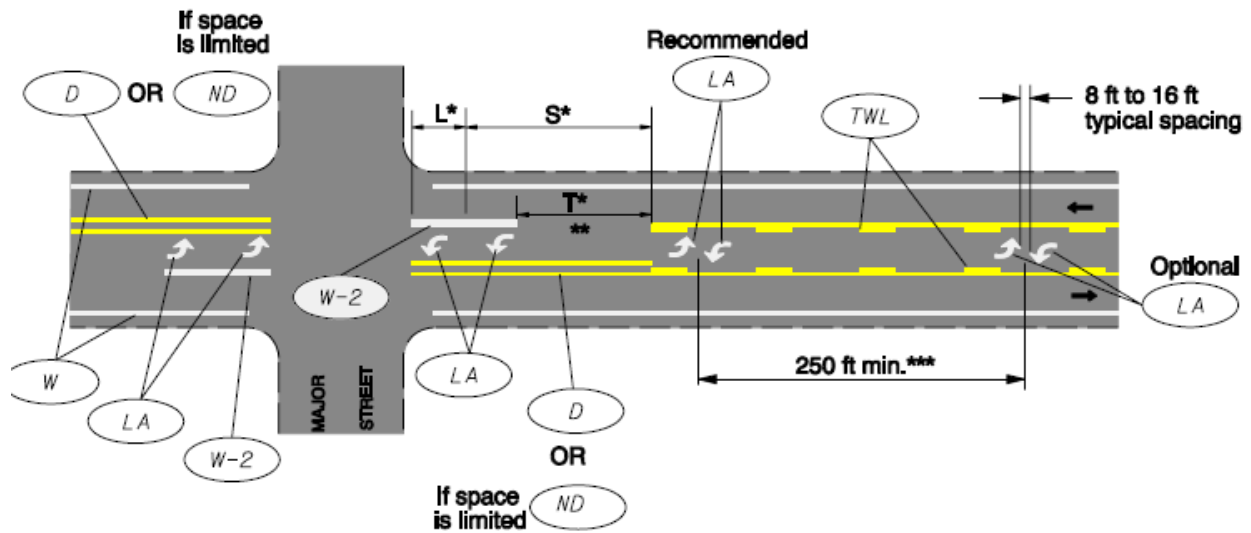
<sup>3</sup> "Supplemental traffic counts were conducted at the study intersections in October 2016, while school was in session. The traffic counts were balanced and seasonally adjusted in accordance with the methodologies identified in the ODOT Analysis Procedures Manual (APM) to reflect peak traffic conditions within the study area." (RECONSIDERATION, page 18)

<sup>4</sup> "The traffic analysis was prepared in accordance with City and ODOT standards and focused on total build-out conditions (i.e. residential homes fully built and occupied). As such, the traffic analysis included typical weekday heavy vehicle traffic captured in the traffic counts. While temporary construction traffic should be considered in the overall development process, it is typically handled as part of a construction management plan that can involve stakeholders." (RECONSIDERATION, page 18)

KIA's assertion that it can account for typical weekday heavy vehicle traffic and ignore the impact of new and atypical construction traffic generated by the development is unconvincing and further illustrates the biased nature of the analysis. The reality is that logging trucks leaving the development site will need to navigate a failing intersection. When was the last time there was this many logging trucks and other heavy machinery coming down Arbor Drive? I contend that a reasonable and neutral person would describe a situation where logging trucks, dump trucks, and other heavy machinery navigating the intersection of Highway 43/Arbor as 'Atypical', 'Irregular', or 'Unusual' traffic. Further, I assert that construction traffic should be considered because, in the real world, this added traffic impacts off-site facilities with each generated trip, in fact, much more than regular traffic.

**(2) Restriping Highway 43 to provide a two-way left-turn lane (TWLTL) is insufficient to address increased traffic at an already failing intersection.**

The Applicant proposes that, to mitigate the impacts of heavily increased traffic, it will restripe Highway 43 to provide for a two-way left turn lane. Example below.



- \* Refer to Figure 21 for L, S, and T dimensions.
- \*\* A reversing curve shall be used for crest vertical curves, horizontal curves, and multiple left turn lanes.
- \*\*\* Double arrows to be placed at even intervals, proportioned within block. Approx. distance (ft) between each set = 10 x posted speed in mph.

**Figure 22b Typical Two-Way Left Turn Lane Layout at Major Intersections**

A TWLTL does not come without limitations, especially when applied to a narrow and very busy intersection like Hwy43/Arbor.

“There are some limitations to TWLTLs the designer must keep in mind. **Extra street width may be required, resulting in an increased need for right of way.** In addition, **TWLTLs add another lane pedestrians and bicyclists to cross and do not provide a refuge area for them.** Another limitation is that **TWLTLs may not alleviate safety problems at closely spaced entrances and intersections, where queuing traffic can block left turning movements.**” (Iowa Department of Transportation, page 2)

The proposed mitigation plan does not meet the Oregon Highway Design Manual standards because it does not provide a continuous two-way left-turn lane and “will likely require Design Exceptions” (ODOT 1, page 4; ODOT 2, page 69). The methodology used to design the mitigation assumes that **100%** of motorists will instinctively know how to do a two-stage turn when there is an “acceptable gap” in traffic. “It cannot be overstated that gap acceptance behavior is highly dependent on the driver characteristics and preferences. Therefore, homogeneous behavior from all drivers at all times is not realistic.” (Nabae, Moore, Hurwitz, page 1). Further, there is insufficient data to show that there will be enough “acceptable gaps” for the proposed mitigation to succeed in its purpose during the peak hours of operation. A simple drive through the intersection during peak hours will illustrate that gaps are extremely limited.

“In fact, drivers on minor approaches have shown a tendency to accept a gap when “the benefit from entry is greater than the associated risk” (Pollatschek et al. 2002). **When the waiting time exceeds the drivers' expectation and tolerance limit, they will accept higher levels of risk associated with smaller gaps.** It is somewhat unclear in the literature if drivers accurately perceive the increased risks associated with the acceptance of these smaller gaps. After a certain wait time threshold, drivers might even accept gaps shorter than gaps that had previously been rejected.” (Xiaoming et al. 2007)

How does the proposed mitigation work when there are vehicles waiting in the turn lane and vehicles waiting to enter Highway 43 from Arbor? What happens when there are vehicles waiting on both sides of Arbor and both Highway turning lanes? These types of situations will happen relatively frequently during peak hours and, while they should result in fewer rear-end collisions, they may result in more turning type accidents due to the unusually high volume of traffic at this intersection. The answer from the accepted methodology is that, due to forecasted optimal use of the two-stage turn, these situations won't impact the level of service and capacity.

“When a driver arrives at the stop line on the minor approach to a TWSC intersection, they need to decide when to execute a maneuver based on right of way hierarchy as well as the availability and distributions of the major road gaps (HCM 2000). **Due to the important role that personal driver behavior plays in confronting the conflicting traffic, the capacity and level of service analysis for TWSC intersections are more complex than that of intersections with higher levels of control.**” (Kittleson and Vandehey, 1991)

What happens to the level of service (LOS) and capacity (v/c) of this intersection if fewer than 100% of motorists instinctively know how to use the TWLTL? What happens during peak traffic hours when traffic is backed up for hundreds of feet north of the intersection and there are no acceptable gaps for long periods of time? I assert that a significant number of motorists will prefer to wait for an adequate gap on both sides of travel instead of attempting a two-stage turn.

I assert that a significant number motorists do not want to make other drivers think “is this person turning in front of me, or will they actually wait?” when attempting a two-stage turn.

In addition, the proposed mitigation plans are also unclear as to which ODOT Traffic Line Manual striping standards (ODOT Traffic Line Manual, pages 36-38) will be used. It is logical to assume that different striping plans will impact utilization of the TWLTL. The methodology applied does not allow you to vary the utilization of the TWLTL and is logically flawed or open to different interpretations.

The problem with accepting the proposed mitigation and its underlying assumptions regarding use of two-stage turns is that we cannot test them as variable inputs and check the results. Instead, we must hope that all motorists perform robotic like homogeneous two-stage turns to get real world results to match their model. What is more troubling is that even when you apply these unrealistic assumptions, the intersection barely meets standards and will easily fail if any of the following occur: (1) two-stage turns are not optimally done, (2) KIA incorrectly gathered or incorrectly applied resampled traffic counts (like their first attempt), or (3) regional traffic growth adds more volume than capacity. The latter has already been projected to happen in the West Linn Conceptual Design Plan, which includes even better and safer mitigation but it still failed.

As previously mentioned, the City Council, working in conjunction with Kittleson & Associates (KAI), has provided projections which illustrate the forecasted impact of both the currently proposed traffic mitigation and the future reconfiguration in the West Linn Conceptual Design Plan (WL, pages 45-47). Refer to Table 2 below.

**Table 2: 2040 Future Base Weekday Peak Hour Intersection Level of Service with Proposed Conceptual Design Plan**

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Average Delay (Sec)	Volume/ Capacity (v/c)	Los	Average Delay (Sec)	Volume/ Capacity (v/c)
<i>Signalized Intersections</i>						
Hwy 43/Marylhurst Dr. – Lazy River Way	D	41.9	>1	D	44.7	>1
Hwy 43/Hidden Springs Rd.	D	39	0.96	D	38.6	0.94
Hwy 43/Pimlico Dr.	C	23.8	0.88	C	31.5	0.99
Hwy 43/West A St.	C	23.8	0.88	C	25.4	0.95
Hwy 43/Hood St.-McKillican St.	D	36	0.93	D	51	0.99
<i>Unsignalized Intersections</i>						
Hwy 43/Arbor Dr.	A/F	> 50	0.00/0.98	B/F	> 50	0.05/>1
Hwy 43/Cedar Oak Dr.	D/F	> 50	0.03/0.25	B/C	16	0.01/0.04
Hwy 43/Holmes St. z	B/F	> 50	n/a/>1	B/F	> 50	n/a/>1
Hwy 43/Lewis St. z	B/F	> 50	0.07/0.27	B/F	> 50	0.07/0.45

Notes: LOS = Level of Service

Delay ■ For signalized intersections, average vehicle delay in the peak hour for entire intersection in seconds. For unsignalized intersections, average vehicle delay for the critical movement.

Unsignalized Intersections Operations:

A/A = Major street turn LOS/Minor street turn LOS

#/# = Major street turn v/c /Minor street turn v/c

“The recommended 2016 Plan would improve the corridor over existing conditions **but still does not meet some of the ODOT operating standards during the AM and PM**

**peak hours. In addition, all locations without traffic signals will continue to have significant delays for side street approaching traffic during peak hours.** This is consistent with the current findings under existing volumes. Improved side street connectivity to existing signalized intersections would help mitigate this condition.” (WL, page 47)

A reasonable person would agree that we should not make our current and future problems even worse by adding more Eastbound traffic down Arbor Drive onto Northbound Hwy 43, which leaves the future motorists only once choice, a local street called Upper Midhill Drive.

## **Proposed Mitigation Impact on Side Streets Facilities**

“Improved side street connectivity to existing signalized intersections would help mitigate this condition” (WL, page 47)

Upper Midhill Dr. is the only side street which provides connectivity to the existing signalized intersection at Highway 43/Marylhurst Dr and public park facilities (Upper Midhill Park) and **is classified as a local street.** The section of Upper Midhill between Arbor Dr. and Marylhurst Dr. measures 16 feet wide in many sections, subjecting users to inadequate **8 feet travel lanes and no sidewalks.** The proposed development is projected to generate additional traffic on Upper Midhill Dr. How can a reasonable person construe these existing public facilities as adequate? How can you justify sending more (future demand) trips down this street? Well KIA would have you believe that it is easily justified by ignoring the width of travel lanes and lack of sidewalks and instead focusing on the vehicle trips per day associated with a “local street”.

“The streets that connect the proposed development to OR 43 are sufficient to accommodate existing vehicle traffic and traffic generated by the proposed development, particularly the segment of Upper Midhill Drive located north of Arbor Drive and the segment of Arbor Drive located east of Upper Midhill Drive. **As local streets, these streets are designed to accommodate up to 1,500 vehicles per day. With the proposed development, these streets are projected to accommodate less than 900 vehicles per day. Therefore, there is sufficient capacity along the existing street network to accommodate a significant increase in traffic beyond the proposed development.** The segment of Upper Midhill Drive located south of Arbor Drive is narrow; however, as described in a previous response letter, it is sufficient to accommodate existing vehicle traffic and traffic generated by the proposed development, which is expected to be less than 10 vehicles per day, including one vehicle during the morning and one vehicle during the evening peak hour. With the proposed development, this segment of Upper Midhill Drive is projected to accommodate less than 300 vehicles per day.” (RECONSIDERATION, page 18)

West Linn Community Development Code 85.200 Approval Criteria defines roadway standards as follows:

“3. Street widths. Street widths shall depend upon which classification of street is proposed. The classifications and required cross sections are established in the adopted TSP.

The following table identifies appropriate street width (curb to curb) in feet for various street classifications. The desirable width shall be required unless the applicant or his or

her engineer can demonstrate that site conditions, topography, or site design require the reduced minimum width. For local streets, a 12-foot travel lane may only be used as a shared local street when the available right-of-way is too narrow to accommodate bike lanes and sidewalks.”

**City of West Linn Roadway Cross-Section Standards**

Street Element	Characteristic	Width/Options
Vehicle Lane Widths (Typical widths)	Minor Arterial	11 - 12 feet
	Collector	10 - 12 feet
	Neighborhood Route	10 - 12 feet
	Local	10 - 12 feet

In addition, there are no sidewalks on Upper Midhill Dr. to provide residents with safe travel to and from the existing park facilities. As a matter of fact, children must walk in the street if they wish to walk from the proposed new development to Upper Midhill Park. Is this adequate?

Sidewalk standards are defined below:

Sidewalks (Typical widths)	Minor Arterial	6 feet, 10 - 12 feet in commercial zones
	Collector	6 feet, 8 feet in commercial zones
	Along Cycle Track	6 feet, 10 - 12 feet in commercial zones
	Neighborhood Route / Local	6 feet (4 - 5 feet in Willamette Historical District), 8 feet in commercial zones

West Linn Community Development Code 85.200 Approval Criteria is very clear in stating that if the purposed development will require access to the signalized location at Highway 43/Marylhurst Dr then adequate public facilities must be available, which is not the case as Upper Midhill Dr. is not “compliant with all applicable standards”.

“No tentative subdivision or partition plan shall be approved **unless adequate public facilities will be available to provide service to the partition** or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.”

It is obvious that public facilities are inadequate to provide for existing or future transportation demand on Upper Midhill Dr. Future trips generated by the proposed development will compound this problem further, maybe not in terms of total volume as opined by KIA and classified by City Code but certainly in terms of pedestrians, cyclists and motorists being forced into sharing a dangerously narrow pathway. Because public facilities are not “compliant with all applicable standards available” and neither the city nor the Applicant have plans to satisfactorily address West Linn Community Code 85.200, the application should be denied.

## **Proposed Mitigation Impact for Cyclists and Pedestrians**

The proposed mitigation will result in further narrowing already narrow bike and pedestrian lanes on Highway 43 to 5 ½' (Application Reconsideration, page 32). The northern leg of the intersection is not wide enough to accept even these widths and will likely need to be narrowed **below 5 feet**, which will require even more **exceptions to safety standards**.

The proposed mitigation is not consistent with the Oregon Highway Design Manual, the West Linn Comprehensive Plan, or the latest national standards including the NACTO Urban Bikeway Design Guide regarding best practices to ensure bike and pedestrian safety. The proposed mitigation may increase the risk of serious injury to a pedestrian or cyclist until the long-term facility improvements are in place, and it does not align its purpose with that of the Multimodal Transportation Project as stated below.

“The purpose of this project **is to improve bike and pedestrian facilities** as well as the overall safety of the roadway. When fully completed, this corridor could provide a safe and critical link between users in Oregon City, the historic Willamette Falls/Locks area, Lake Oswego, Portland, and beyond.” (MTP, page 1)

The City of West Linn has further publicly supported the need for bicycle safety with the following statements.

“The 2016 OR 43 Conceptual Design Plan (2016 Plan) is needed to provide clarity on the ultimate cross section envisioned for OR 43 in West Linn, **incorporate bicycle facilities that will serve and attract users of all ages and abilities**, ensure consistent access for emergency vehicles and maintenance functions, and secure agreement between the Oregon Department of Transportation (ODOT) and the City of West Linn with regards to the geometric and traffic control design elements throughout the corridor.” (WLCP 1, page 4)

“Create a corridor that will **encourage the use of alternative transportation modes and reduce reliance on the automobile**.” (WLCP, page 4)

“Improve vehicular access to properties abutting OR 43 **while promoting bicycle and pedestrian safety**.” (WLCP, page 4)



**“Ensure consistency with adopted plans, policies and standards, including the Oregon Highway Plan, the Oregon Highway Design Manual, the Regional Transportation Plan, the West Linn System Transportation Plan, the West Linn Comprehensive Plan, and the latest national standards including the NACTO Urban Bikeway Design Guide.” (WLCP, page 4)**

I fully support the efforts taken on behalf of the City of West Linn working in conjunction with ODOT for their 2016 Conceptual Design Plan to drastically improve the public facilities available to cyclists and pedestrians. However, the Applicant plan does not provide for adequate transportation facilities to accommodate existing and future cyclist and pedestrian demand.

## Summary

There has been a pattern of mistakes that err on the side of the Applicant and I personally question the neutrality of the professionals working on behalf of the Applicant. The Applicant is claiming that we can rely on his expert testimony, but there is reasonable doubt about the neutrality of his experts, if not a clear conflict of interest for certain parties involved and how they interpret “adequate public facilities.” If we cannot trust the data used to generate the TIA, we cannot trust the proposed mitigation. When considering the mitigation, we must consider its impact on ALL modes of transportation. The City’s own forecast shows this intersection will continue to fail into the future and if we truly want to solve the problem we need to also focus on other methods of transportation, which this proposed mitigation does not do. Doing so will require widening the road to “include extension of existing storm drainage pipes/culverts and installation of retaining walls/ handrails would likely be needed.” (WLCP, page 17). The city should not accept a short-sighted solution from the Applicant if it means compromising on safer facilities for cyclists and pedestrians. There is certainly more room to argue each side, but I believe it is the duty of the council to err on the side of public safety rather than a developer’s personal financial gain. I feel confident with more focus, more resources, and further evidence being presented, the threat of a higher density and overall more dangerous plan can be mitigated. We may be in for a long battle that could reach as high as the Oregon Supreme Court. That is ok. I would forever regret not addressing these issues if somebody is tragically injured. I purpose the City deny the application and work with the community and the Applicant on a safer plan that meets both existing and future public facility demand. Here are a few options.

- The Applicant waits for the Multimodal Transportation Project which includes adequate bike and pedestrian facility to be completed.
- Due to the rather high cost for all parties to bring existing facilities up to adequate capacity, it may be in the best interest of all parties to discuss a transfer of ownership of the property from Midhill to the city. I am sure this is not budgeted, but neither is bringing our existing facilities on Upper Midhill Dr. and Arbor Dr. compliant with all applicable standards.
- The city and Midhill enter into conversations to reduce the number of trips generated by the proposed development while bringing facilities up to safety standards.

Thank you,

Jason Harra

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## REFERENCES

RECONSIDERATION (3/1/17)

[https://westlinnoregon.gov/sites/default/files/fileattachments/planning/project/10331/2017\\_03.01\\_applicants\\_reconsideration\\_submittal.pdf](https://westlinnoregon.gov/sites/default/files/fileattachments/planning/project/10331/2017_03.01_applicants_reconsideration_submittal.pdf)

Sahar Nabaee, Derek Moore, & David Hurwitz Oregon State University

“REVISITING DRIVER BEHAVIOR AT UNSIGNALIZED INTERSECTIONS: TIME OF DAY IMPLICATIONS FOR TWO-WAY LEFT TURN LANES (TWLTL)”

[http://drivingassessment.uiowa.edu/sites/default/files/DA2011/Papers/063\\_NabaeeMoore.pdf](http://drivingassessment.uiowa.edu/sites/default/files/DA2011/Papers/063_NabaeeMoore.pdf)

Kittleson, W.K., & Vandehey, M.A., (1991).

Delay Effects on Driver Gap Acceptance Characteristics at Two-Way Stop-Controlled Intersections. Transportation Research Record, 1320, 154–159.

Pollatschek, M.A., Polus, A., & Livneh, M. (2002).

A decision model for gap acceptance and capacity at intersections. Transportation Research Part B, 36(7), 649-663.

Transportation Research Board of The National Academies. (2000).

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Zhong Xiaoming, Zhu Xinzhen, Zhang Yong, & LIU Xiaoming. (2007).

Left-turn Gap Acceptance Behavior of Tee Type of Unsignalized Intersection. Paper presented at the International Conference on Transportation Engineering (ICTE) 2007 Chengdu, China.

IDOT – Continuous Two-Way Left Turn Lanes (TWLTLs)

<https://www.iowadot.gov/design/dmanual/06c-06.pdf>

ODOT 1

ODOT Response 4/6/16

[https://westlinnoregon.gov/sites/default/files/fileattachments/planning/project/10331/letter\\_from\\_odot\\_and\\_additional\\_testimony.pdf](https://westlinnoregon.gov/sites/default/files/fileattachments/planning/project/10331/letter_from_odot_and_additional_testimony.pdf)

“The mitigation concept as proposed **does not meet ODOT’s Highway Design Manual**; the three lane section will have to extend from the proposed northbound Arbor Drive to the existing southbound left-turn lane at Shady Hollow Way, creating a

continues two-way left turn-lane that includes bike and sidewalk along this section of the highway.”

#### ODOT 2

ODOT Response 2/3/17

[https://westlinnoregon.gov/sites/default/files/fileattachments/planning/project/10331/2017\\_03.01\\_applicants\\_reconsideration\\_submittal.pdf](https://westlinnoregon.gov/sites/default/files/fileattachments/planning/project/10331/2017_03.01_applicants_reconsideration_submittal.pdf)

“ODOT supports the proposed mitigation concept to improve mobility standards and address safety issues at this intersection. **However, in order to construct this turn lane to ODOT standards**, Midhill would need to extend the three lane section from Arbor Drive to Shady Hollow Way, creating a continuous two-way left turn-lane that includes bike lanes along this section of the highway.”

#### ODOT Traffic Line Manual 6/11

[http://www.oregon.gov/ODOT/HIGHWAY/TRAFFIC-ROADWAY/docs/pdf/tlm\\_web.pdf](http://www.oregon.gov/ODOT/HIGHWAY/TRAFFIC-ROADWAY/docs/pdf/tlm_web.pdf)

#### MTP 1

<http://www.odotr1stip.org/explore-by-program/enhance/highway-43-multimodal-transportation-project/>

WLCP – West Linn OR 43 2016 Conceptual Design Plan. City of West Linn, Oregon.

[http://westlinnoregon.gov/sites/default/files/fileattachments/planning/page/5828/west\\_linn\\_Highway\\_43\\_concept\\_plan\\_-\\_adopted\\_2016.pdf](http://westlinnoregon.gov/sites/default/files/fileattachments/planning/page/5828/west_linn_Highway_43_concept_plan_-_adopted_2016.pdf)

CDC – West Linn Community Development Code, Chapter 85.200

<http://www.codepublishing.com/OR/WestLinn/CDC/WestLinnCDC85.html#85.200>