



P.O. Box 972
Ashland, OR

Medford City Council Public Hearing of 11/1/2018

Public Hearing on the Transportation System Plan – update
File: (CP-16-036)

Siskiyou Velo: Harlan Bittner, President

Harlan Bittner, as an individual

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Gary Shaff, as an individual

This testimony serves as a supplement to that which was submitted in advance of the Planning Commission’s public hearing on 10/11/18

Introduction

Siskiyou Velo has advocated for the City to provide safe and convenient bicycle facilities for all residents. To this end, we have made numerous presentations to civic groups and have met with City officials throughout 2018 in an attempt to ensure that the City’s bicycle transportation system in 2038 will, in fact, meet the requirements of the Oregon Transportation Planning Rule (TPR), Chapter 660.

The City’s Transportation System Plan – Update (TSP—Update) fails to incorporate the requirements of the TPR to create a viable bicycle transportation network. The TPR has been in effect since 1991 and while there have been amendments to the Rule, it has always required all cities and counties within metropolitan areas to make changes to their existing transportation system “to enhance, promote and facilitate safe and convenient ... bicycle travel” (OAR 660-12-0000(3)(a) .

Over the years, Medford has added many miles of bike lanes on its arterial and collector streets. Presumably, this was in response to OAR 660-12-0045(3)(b) which states “**bikeways** shall be required along arterials and major collectors” (emphasis added). The City, in contrast to the TPR requirement, has utilized bike lanes as a “one-size-fits-all” improvement ignoring other TPR requirements including OAR 600-12-0045(3)(d)(A), which requires that **bike facilities** (emphasis added) be “reasonably free from hazards, particularly types or levels of automobile traffic which would interfere with or discourage ... cycle travel for short trips.”

As a consequence of the City’s policy, the existing bicycle transportation system is largely unusable by the majority of people who might otherwise choose to bicycle if the system were, as required by the TPR, “safe and convenient.” A survey conducted by the City in August 2017 (Medford Transportation Survey, question 17) found that over 50% of residents ride bikes, but only about 6% feel safe and confident riding on city streets. The TSP – Update refers to these people as “strong and fearless” or “enthused and confident.



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Figure 1 (draft TSP, Figure 10) indicates level of stress (L or LTS) for existing bicycle facilities in Medford. Only Level 1 stress bike facilities, it should be noted, can be used by people of all ages and abilities. There are no existing collector or arterial streets shown on Figure 1 with L1 or L2 stress. There are future streets planned for Level 2 stress—generally, L2 stress facilities can accommodate most adults of ages 18-64 who have “adequate” bicycle handling skills.

All of the City’s collector and arterial streets are either L3 or L4, which are considered unsafe for everyone. The current bicycle network on arterial and collector streets, then, completely excludes children, seniors and families. Analysis of Fig 1 also indicates that riding a bicycle from anywhere to anywhere in Medford is almost impossible on L1 stress facilities—thus excluding vast numbers of all people (including commuters, shoppers, people going to medical appointments, etc.) from riding safely and conveniently in Medford.

The TSP—Update validates these findings, noting on page 34 “that many streets, with bicycle lanes, still result in [high] LTS [Level of Traffic Stress] 3 or 4 ... due to the speed of adjacent traffic.” Thus the City’s existing bicycle transportation system is not “reasonably free from hazards,” a TPR required standard for bicycle facilities (see OAR 660-12-0045(3)(d)(A)).

Further compounding the issue is the City’s historic construction of overly narrow bike lanes on most of its arterial and collector streets. The problem is illustrated in Figure 2 with additional examples included in Appendix 1. Many of the bike lanes on major (arterial and collector) streets do not meet the City’s street standards, which require 5’ wide bike lanes except on major arterials, where 6’ wide bike lanes are required. The resulting close proximity of bicycles and traffic results in higher Levels of Stress on many streets than indicated in Figure 1. The TSP--Update does not include any description of the LTS methodology but it likely relied upon the flawed inventory indicated here.

Figure 1

Figure 10 Existing Bicycle Level of Traffic Stress (LTS)

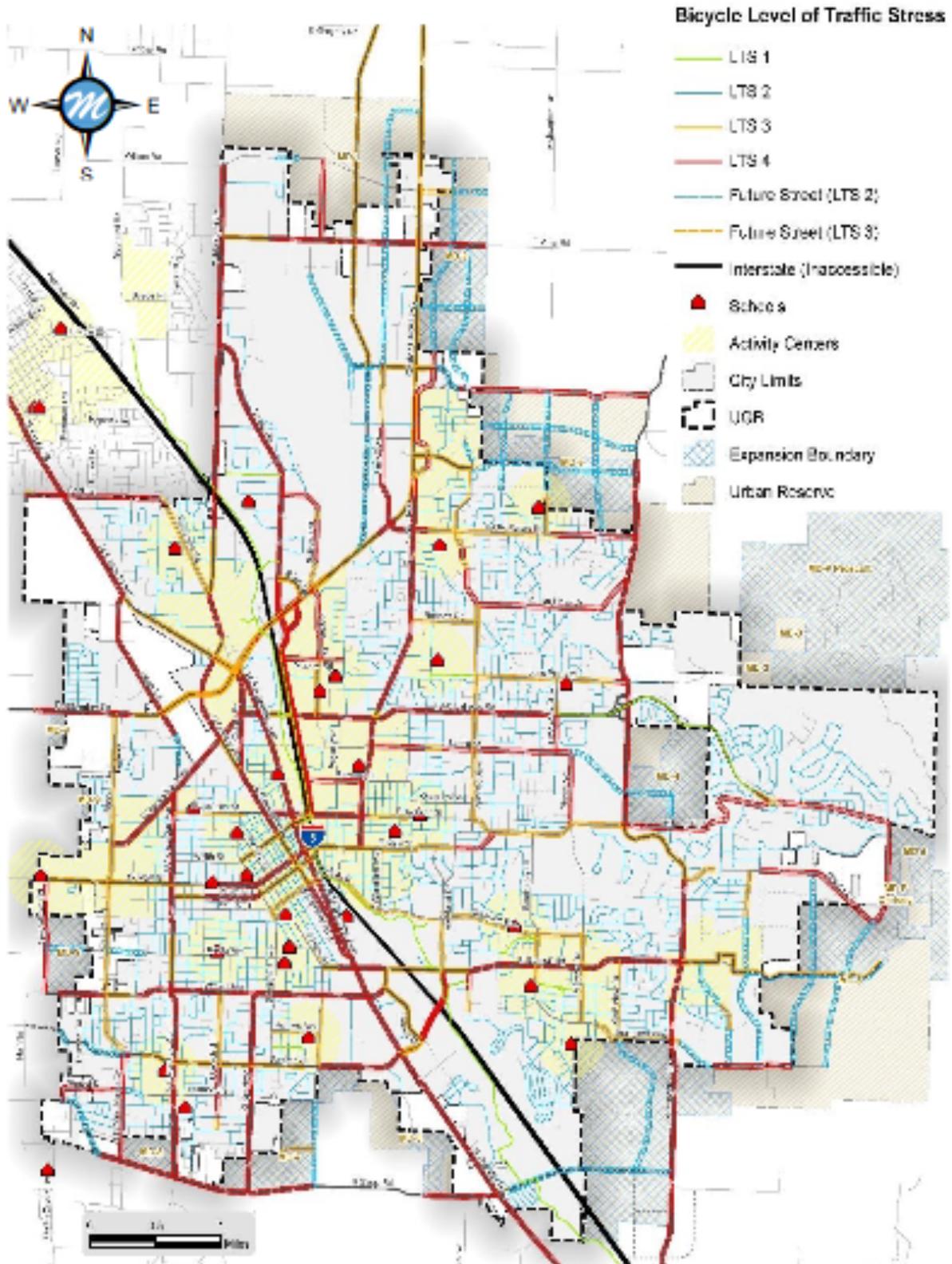


Figure 2

Too Narrow Bike Lanes

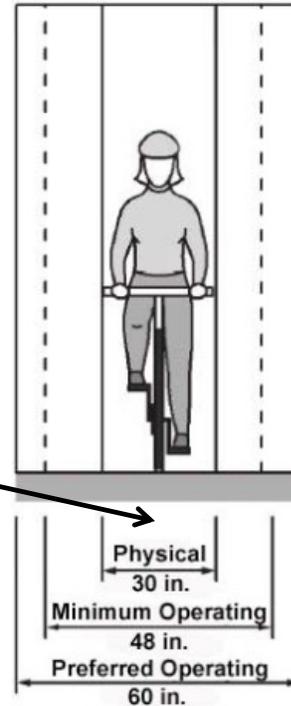
Medford, like the rest of the RVMPO cities, have focused almost exclusively on adding bike lanes on major streets (arterial and collector streets). **The City's efforts have often lead to overly narrow lanes for bikes** despite the City's street standards which require five feet wide bike lanes except on major arterials where the City's code* requires bike lanes to be six feet wide (both measures include the width of the drain pan).

*Source: <http://www.ci.medford.or.us/codeprint.asp?codeid=4426>



Riding a Bicycle Should Not Require Bravery

Two and one-half feet wide. That is too narrow for safety or comfort.



Source: 2012 AASHTO Bike Guide

The TSP does call for a bicycle network that is safe for everyone (TSP--Update, Vision, Goal 1, Objective 1, 2, and 3 as examples). Yet, the draft TSP sets LTS 2, only suitable for adults with adequate bicycle handling skills, as the future standard for bicycle improvements.

It is also notable that there are no bike facility “safety” improvements listed in the TSP despite the City’s acknowledgement that the existing bicycle transportation system is unsafe for the majority of its citizens. For existing bicycle safety deficiencies, the draft TSP update merely states that these “will be considered when improving or retrofitting roadways” (TSP--Update, page 34).

Siskiyou Velo urges the City to state in the TSP explicit requirements for bicycle facilities that are safe and convenient for all citizens. The National Association of Transportation Officials (NACTO) standards are explicit (see Exhibit 2, attached), and should form the basis for the bike facility requirements in the TSP-Update. Though the NACTO document is referenced as an action item in the TSP-Update, a simple reference to that document is not sufficient. Furthermore, the wide discretion afforded in the TSP--Update in terms of cross-section selection and treatment of legacy streets is unlikely to result in an adequate bicycle network for all citizens.



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Please instruct the City's staff to modify the TSP--Update to ensure that the bicycle transportation system is safe and can serve everyone by the year 2038. Thank you.

Failure A – OAR 660-12-0045(3)(d)(a)

The draft TSP does not establish specifications for maximum average daily traffic or speed as measures for the suitability (and safety) of bike facility designs. Without specific limits on traffic speeds and volumes, people riding bicycles on City's streets will not be "reasonably free from hazards, particularly types or levels of automobile traffic which would interfere with or discourage ... cycle travel for short trips" (OAR 660-12-0045(3)(d)(a)). Simply painting a sharrow on a residential street, or putting a standard bike lane on a collector or arterial street does not ensure the safety of a person riding a bicycle or create an environment "reasonably free from hazards." Otherwise, the existing network of bike lanes would not be uniformly classified as Level of Traffic Stress (LTS) 3 and 4.

The National Association of City Transportation Officials (NACTO) document, Designing for All Ages and Abilities, sets maximum motor vehicle traffic volumes and speeds for bicycle facility designs. This approach is essential to ensuring that people riding bicycles are safe and won't be discouraged from taking short trips by bicycle. The draft TSP's failure to include such limits is a glaring omission.

As an example, the NACTO document includes maximum speeds and motor vehicle volumes for "bike boulevards" (i.e. neighborhood bikeways). Ninetieth percentile speeds must be limited to 20 MPH or less and average daily traffic must not exceed 1,500 vehicles. Where the 90 percentile speed exceeds 25 MPH a protected bike lane or bicycle path is required in order to ensure safety.

The draft plan does not demonstrate how the proposed cross-sections (Exhibit 2 through 16) comply with the requirements of OAR 660-12-0045(3)(d)(a).

Failure B – OAR 660-12-0045(3)(d)(b)

The draft TSP does not designate nor provide for the improvement of a network of bicycle facilities on arterial, collector and residential streets and thus create a network of bicycle facilities. As such, the draft TSP does not provide for a coherent and connected network of bicycle facilities that will "provide a reasonably direct route of travel between destinations..." (OAR 660-12-0045(3)(d)(b)).

Bike boulevards are essential to creating a network of bicycle facilities consistent with the requirements of the TPR. The draft TSP, Exhibit 15, shows the proposed cross-section of a "neighborhood bikeway." The cross-section simply adds "sharrows" and possible way findings signs to what would otherwise be a standard residential street (Exhibit 14).

How these "neighborhood bikeways" connect with others to create a network is not shown nor described in the draft Plan. The draft plan seems to suggest that all residential streets can serve



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as neighborhood bikeways with or without designation. That cannot be presumed given the lack of information about actual traffic speeds or volumes on these streets.

Experience in other cities has shown that neighborhood bikeways work best when coupled with protected bike lanes. “Vancouver’s recent experience tells the story. In the 1990s and 2000s, the city built a network of bike boulevards and biking gradually edged upwards, reaching four percent bike commuting by 2011. Then the city shifted toward building protected bike lanes to go with them . . . and bike commuting more than doubled in four years, rapidly turning Vancouver into the bikingest large city on the continent.” (<https://usa.streetsblog.org/2017/01/06/side-street-bikeways-only-pay-off-if-you-have-protected-bike-lanes-too/>)

The draft TSP does not demonstrate how the City’s seemingly random approach to bicycle facilities and their improvement will conform to the requirements of OAR 660-12-0045(3)(d)(b). The draft TSP’s listing of “neighborhood bikeway” projects (Table 18) does not include any Tier 1 projects – that is, the draft TSP does not provide funding for their construction during the 20 year planning horizon. Nor is there funding for separated bikeways – which are needed virtually everywhere bike lanes currently exist to simply ensure the safety of people riding bicycles (see Failure C).

Failure C – 660-12-0045(3)(e)

The draft TSP does not conform to OAR 660-12-0045(3)(e) which reads “the transportation system shall avoid principal reliance on any one mode of transportation by increasing transportation choices to reduce principal reliance on the automobile.”

The City does not reflect in its funding priorities the extraordinary back-log of unsafe, substandard bicycle bike lanes (see Appendix A) which need to be upgraded to protected bike lanes (see Figure 1) in order to ensure the safety of people riding bicycles. Figure 13 illustrates the extent of the problem but nowhere are those needs itemized. Using the City’s GIS data sets, the total computed mileage of needed protected bike lanes exceeds 100 miles.* These needs will go almost entirely unmet and are not itemized in the draft TSP.

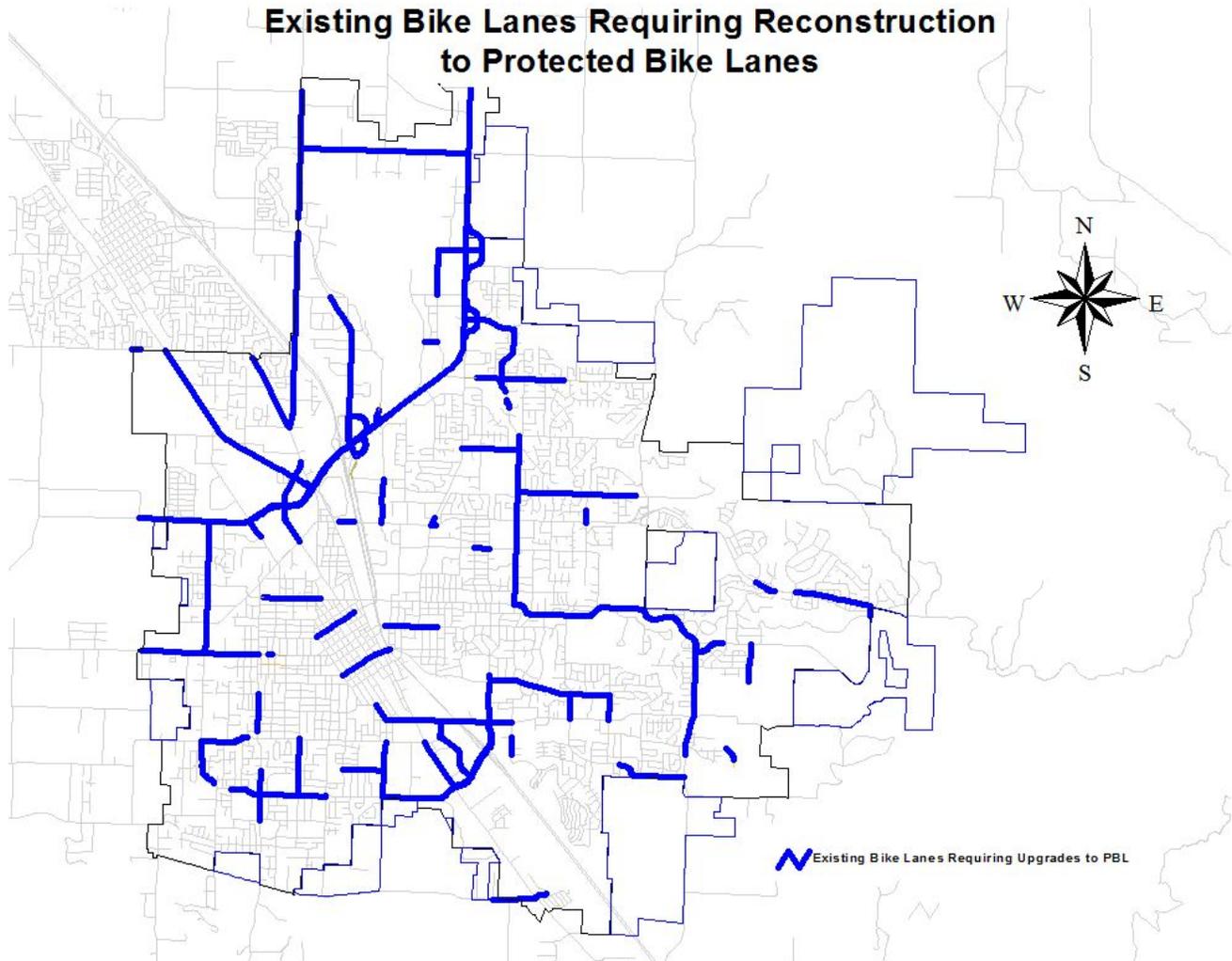
* Based upon GIS data file GIS file “existing_bicycle_facilities - deficient.shp and “bike_proj3” field equal to 1) “construction of protected bike lanes min 7 feet,” 2) “upgrade bike lane to protected bike lane min 7 feet,” or 3) “construct protected bike lane min 7 feet or bike lane min 5.5 feet”]

The draft TSP includes only \$100,000 annually in Tier 1 funding to “evaluate and construct potential roadway reconfigurations to accommodate bicycle facilities through re-striping and/or minor reconstruction at high-priority locations” (draft TSP, Table 19). This project would not address the system-wide needs for protected bike lanes.

Figure 1



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Source: GIS file "existing_bicycle_facilities - deficient.shp," City of Medford, 2018

NOTE: The City's classification of "bike lane" includes those less than four feet wide, and those without proper striping and the required bike rider symbols. The latter are on OR99, OR238, and at the South Medford Interchange; all ODOT facilities.

One project that may include protected bike lanes is listed in Table 19, ODOT's OR99 improvement between Garfield and S. Stage Road. According to detailed recommendations included in the City's GIS data, this project would add 1.2 miles of protected bike lanes, at an estimated cost of \$12,675,000 or, approximately, \$10.4 million dollars per mile. That cost compares to \$2.8 million per mile that Portland uses to estimate the cost of adding protected bike lanes with concrete protection to a two-way arterial street (source:

<https://usa.streetsblog.org/2018/05/25/portland-plans-to-make-protected-bike-lanes-standard-street-infrastructure/>).

Using the lower Portland cost estimate, the total cost of adding protected bike lanes to the approximate 100 miles of roads that need them would total approximately \$280 million. These needs are ignored in the Safety Plan, page 97 of the draft TSP, and the allocation of TIER 1 funding. That is, except where protected bike lanes may be included in TIER 1 motor vehicle system improvements.



Improvements to meet motor vehicular travel needs will not solve the existing bicycle facilities safety problems nor address the needs for a “safe and convenient” bicycle network. Figure 19 shows how widely and randomly scattered the motor vehicle improvements are. Clearly, the motor vehicle improvements won’t contribute in any meaningful way to the creation of a “safe and convenient” bicycle network.

Further demonstration that the draft TSP does not conform to the requirements of the TPR is the lack of funding for “neighborhood bikeways” and “shared-use paths.” None of the “neighborhood bikeways” listed in Table 15 or the “shared-use paths” listed in Table 16, with the exception of the Larson Creek, are TIER 1 funded. That means that they are not planned for improvement during the TSP’s 20 year planning horizon. The estimated cost to construct the identified “neighborhood bikeways” and the “shared use paths” is \$195,000 and \$67,125,000, respectfully. Only 2.4 percent of those needs or \$1,621,000 is set aside for construction of the TIER 1, Larson Creek shared-use path.

Table 1 shows the allocation of TIER 1 funding by mode.

Table 1. Allocation of TIER 1 Funding by Mode

Mode of Travel	TIER 1 Funding	Percentage of Total
Walking Mode (exclusively)	\$5,000,000 *	5.7
Bicycling Mode (exclusively)	\$2,000,000 *	2.3
Multi-Use PED/Bike (exclusively)	\$1,621,000	1.8
SUBTOTAL	\$8,621,000	7.9
Motor Vehicle Mode	\$81,440,343**	92.1
TOTAL	\$88,440,343	100.0

* Does not include sidewalks and bike facilities constructed as a part of motor vehicle mode improvements.

** Includes signal upgrades.

The draft TSP’s allocation of TIER 1 funding is inconsistent with the requirements of the TPR. Under the draft TSP, the existing unsafe and largely unusable bicycle network, as shown in draft TSP - Figure 12, will remain largely unchanged. Medford will continue to be almost entirely dependent upon the motor vehicle mode, contrary to the requirement of OAR 660-12-0045(3)(e).

Failure D - OAR 660-12-0045(6)

The TPR, under OAR 660-12-0045(6), requires “in developing a bicycle and pedestrian circulation plan as required by OAR 660-012-0020(2)(d), local governments shall identify improvements to facilitate bicycle ... trips to meet local travel needs in developed areas.” The draft TSP does not identify those improvements but rather provides in the project list \$100,000 annually in Tier 1 funding to “evaluate and construct potential roadway reconfigurations to accommodate bicycle facilities through re-striping and/or minor reconstruction at high-priority locations” (draft TSP, Table 19).

The project is described in overly vague terms and does not ensure that the improvements will achieve the requirements of the TPR. In fact, if the City reconfigures existing roadways



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(arterial and collector streets) as they have in the past it will simply mean more substandard, unsafe, and largely unused bike lanes with LTS ratings of 3 and 4. History has clearly shown that these do nothing or almost nothing to meet local bicycle travel needs.

The draft TSP's legacy street policy is in direct conflict with the requirements of OAR 660-12-0020(2)(d). Legacy streets by definition are in developed areas and where, coincidentally, safe and convenient bicycle facilities are essential to meet bicycle travel demand. The legacy street policy would potentially allow the City to forego construction of bike facilities where they are needed most and required under OAR 660-12-0020(2)(d).

Failure E – OAR 660-12-0045(6)

The draft TSP proposed "alternative routes" is similar to Failure D but at a corridor level rather than Citywide. The "alternative routes" policy applies to the following arterial and collector streets - Oakdale Avenue, Barnett Road, Crater Lake Avenue, Cottage Street, Willamette Avenue, 10th Street, and 4th Street. The proposed alternative routes, according to the draft TSP, Table 17, would serve as substitute routes for bicycle travel demand in these corridors. The City should ask how that would work for automobile drivers and consider, as well, that pedal bikes are human powered. Any out of direction travel and delay (in the form of periodic stop signs) diminishes the effectiveness of the bicycle mode and reduces its attractiveness. Precluding "safe and convenient" bicycle access and use within entire corridors of the City would undermine the requirements of the TPR and more particularly OAR 660-12-0045(6).

Crater Lake Avenue and Barnett Road corridors are busy commercial areas that provide vital destinations for residents living in or near these corridors. Additionally, these same corridors include higher density housing which would be unserved by the proposed alternative routes. The other streets planned for alternative routes include on-street parking (presumably what the draft TSP refers to as "other physically limiting characteristics") which could potentially be removed to create the needed bicycle facilities. Finally, in several cases the suggested alternative routes would include challenging terrain and roadway grades that many cyclists would find impossible. Others are too distant from the street they are intended to serve as an alternative route, to be effective in meeting bicycle travel demand.

Failure F – OAR 660-12-0035(4)

OAR 660-12-0035(4) states "it is anticipated that metropolitan areas will accomplish reduced reliance by changing land use patterns and transportation systems so that walking, cycling, and use of transit are highly convenient and so that, on balance, people need to and are likely to drive less than they do today." It is clear that the draft TSP has not planned for any changes to the transportation system that will improve the convenience of bicycling on its legacy transportation system (See Failure B, C, D and E). The RVMPO's monitoring of progress in meeting the "alternative standards" clearly demonstrates that the City's past efforts have produced little or no change in the mode split distribution. The draft TSP does not provide for any departure from past trends but instead ensures the perpetuation the City's residents' dependence on the auto mode, contrary to the requirements of the TPR.



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It is clear that the cycling will be no more convenient than it is today. In fact, with increasing motor vehicle volumes on many of Medford streets it will only become worse. That is, except in areas of the City that are currently undeveloped which, presumably, will be developed in a way that ensures that all modes of travel will be equally convenient. Although, that assumption may not be true (see Failure A and G).

Failure G – OAR 660-12-0020(2)(b)

The City’s street cross-sections will not “provide for safe and convenient bike ...circulation necessary to carry out OAR 660-012-0045(3)(b)” which is a requirement of OAR 660-12-0020(2)(b).

The roadway cross-sections (Exhibits 3, 6 and 9) establish maximum speed thresholds that are in excess of those detailed in the National Association of City Transportation Officials (NACTO) document entitled Designing for All Ages and Abilities. According to NACTO, roadways that have 90th percentile speeds in excess of 25 MPH must include protected bike lanes or a bicycle path. The draft TSP reference to speed is presumably posted, not actual vehicle speeds and would thus be 10 to 20 percent lower than what will actually be present on the street. Higher speeds further undermine the claim that these streets are “low-stress.” Only by including protected bike lanes or a bicycle path will these cross-sections be suitable for all the City’s residents to bicycle safely and conveniently (a requirement of the TPR).

The majority of the roadway cross-sections (Exhibits 2, 5, 8, 10, 11, 12, 13, 14, 15, 16 and 17) don’t include bicycle facilities. Only if the 90th percentile speeds are at or below 20 miles per hour and limited to no more than 1,500 vehicles per day, according to NACTO, will these be “safe and convenient” for bicycling.

Failure H – OAR 660-12-0020(2)(b)

The City’s proposed pedestrian/bike facilities behind the curb are not likely to “provide for safe and convenient bike ...circulation necessary to carry out OAR 660-012-0045(3)(b)” which is a requirement of OAR 660-12-0020(2)(b).

The design for these facilities are not shown in the draft TSP, Attachment A, Ped/Bike Toolkit. Presumably, these facilities would be constructed immediately adjacent to the curb (or a narrow planting strip) and would be 14 feet wide and serve both pedestrian and bicycle travel. Most logically, the design is an amalgamation of a sidewalk and a multi-use path. By specifying a 14 foot width the draft TSP presumes that people riding bicycles and pedestrians can share the same space. That may work but with speed differentials of the two modes broaching 15 MPH or more there will, undoubtedly be, collisions and, potentially, some result in injuries and, potentially, a few will be fatal.

Collisions and crashes involving motor vehicles turning into and across the combined pedestrian/bike facility will likely be common. That is especially true with the frequency of curb cuts and cross-streets along the streets where these are proposed. The project description does not include reference or commitment to the consolidation of accesses. Table 2 lists the streets and segments where these improvements are proposed.



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Table 2 – Proposed Pedestrian/Bicycle Paths Immediately Adjacent to Roadways

Project NO.	Street	Segment
B12	Ellendale Dr.	Barnet Rd. to Hospitality Way
B22	Poplar Dr.	Crater Lake Ave. to Morrow Rd.
B31	Delta Waters Rd.	Lear Way to Crater Lake Ave.
B156	Riverside Ave.	Barnett to Stewart Ave.
B158	Stewart Ave.	Dixie Lane to Center Drive
B159	McAndrews Rd.	Columbus to Brookdale Ave.

The Ped/Bike Toolkit provides the following warning regarding multi-use paths which would presumably also apply to pedestrian/bicycle facilities as described in the draft TSP.

- “May be unsafe in areas with frequent crossings or driveways.
- “When parallel to roadways, requires substantial space for buffer.
- “Potential for conflicts between bicyclists and pedestrians due to shared facility”

Each of the candidate streets are characterized by frequent driveways and/or street crossings. Some of these have high turning volumes. The Ped/Bike Toolkit suggests that they (multi-use paths) can be unsafe in these roadway environments.

The description of these projects includes “behind the curb.” While the design could include a “substantial space or buffer” between the curb and the edge of the pedestrian/bicycle facility, it is unlikely that this is a part of the project conception. Otherwise, there would be no advantage to constructing a pedestrian/bicycle facility, as its width (including the buffer) would be equal to the width of a separated bike path and sidewalk, which would be much safer for all road users.

Importantly, this design serves destinations only on one side of the street. People who need to access destinations on the opposite side of the street would be forced to use unconventional measures (crossing mid-block, biking against traffic, etc).

The buffer between the roadway and the pedestrian/bicycle facility should be at least as wide as length of an automobile (if a commercial access – as wide as a typical delivery truck is long). That way, a turning vehicle could completely pull out of the travel lane, and stop in order to yield to pedestrians and people riding bicycles. Without such a wide buffer motorists would be forced to either stop in the travel lane or, potentially, fail to yield to the pedestrian or bicyclist on the facility. This ill conceived design should be eliminated from the draft TSP. The pedestrian/bicycle facility design does not conform to the requirements of OAR 660-12-0020(2)(b).



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Appendix 1
Substandard Bike Lanes in Medford (a sample)
(measure in feet)



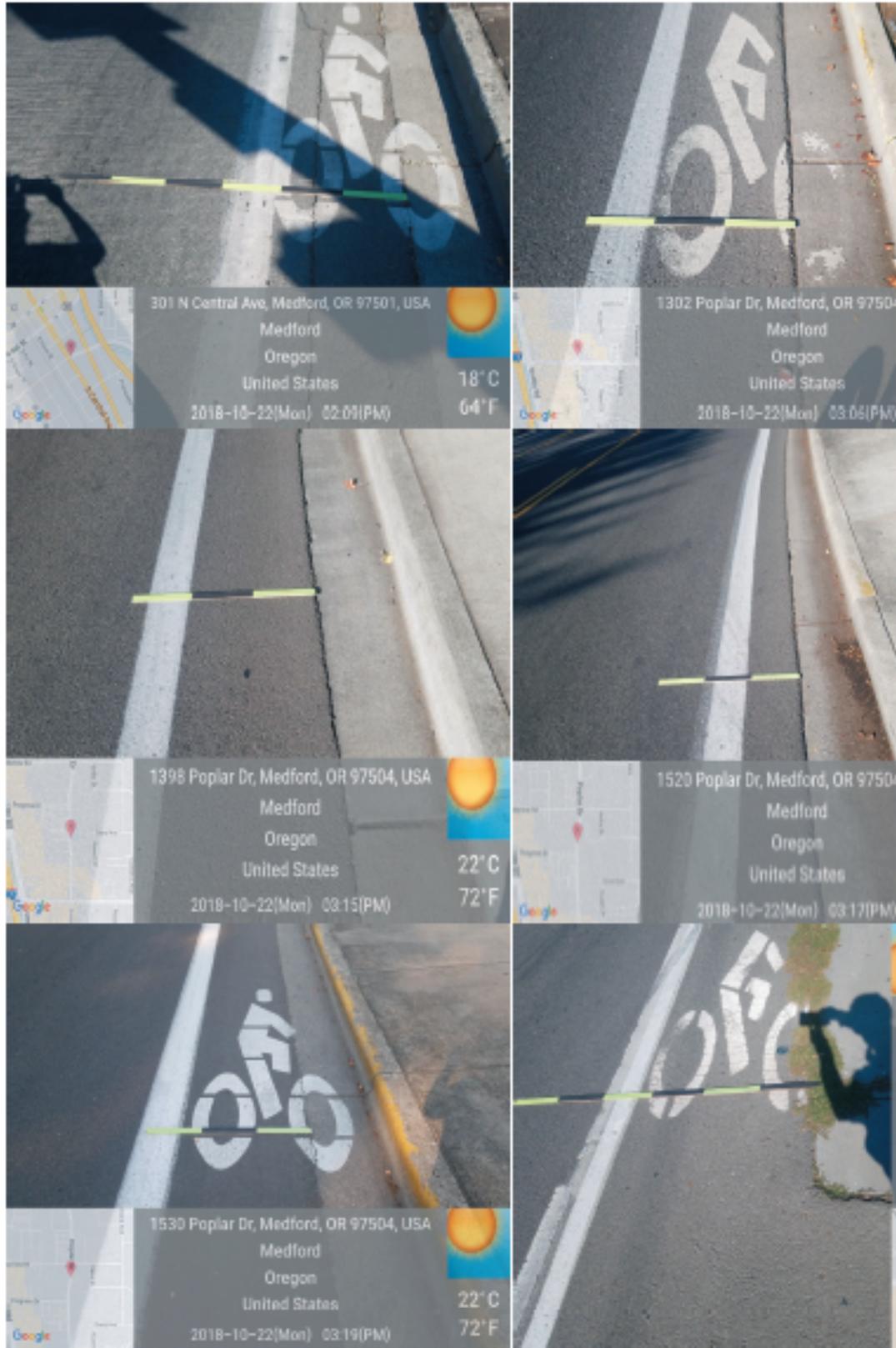


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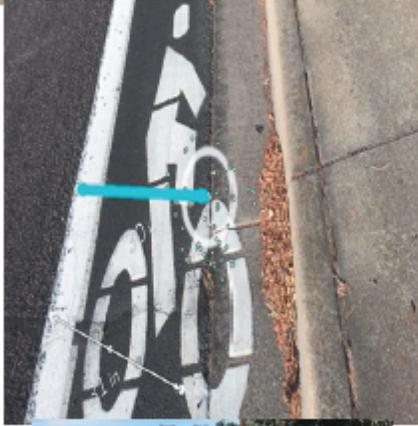




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Bike lane to the right of right-turn only lane,
Barnett and N Phoenix.



Too narrow bike lane (3 feet, as indicated by blue
line), Springbrook.



Disappearing bike lane on Springbrook.



Appendix 2

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