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LONG RANGE PLANNING
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Transportation Requirements and Procedures for Development

For Presentation at the Nov. 1, 2017 Planning Commission Work Session

Issue

The Washington County Board of Commissioners (Board) identified the need to update Washington County's transportation requirements and procedures for development. The requirements and procedures were previously adopted by Resolution and Order (R&O) 86-95 "*Determining Traffic Safety Improvements Under the Traffic Impact Fee Ordinance.*" The 2014 update of the Washington County Transportation System Plan calls for the Board to consider an update of these procedures (Strategy 1.3.3). The Board included this task as part of the 2016 long range planning (LRP) work program, Tier 1, Task 1.16[1] and carried over to the 2017 LRP work program. This issue paper examines the existing transportation development review requirements and procedures and provides recommendations for policy and procedural changes.

Summary of Recommendations

The following recommendations are intended to guide an update of the transportation-related development requirements and review procedures which may include:

- A Resolution and Order superseding and replacing R&O 86-95.
- Amendments to the Community Development Code (CDC) as necessary; would need to be adopted through a separate ordinance.

The following recommendations are offered for consideration:

1. Update R&O 86-95 "*Determining Traffic Safety Improvements Under the Traffic Impact Fee Ordinance*" (draft is attached) to:
   - Clarify the requirements for a traffic study associated with a development proposal;
   - Develop an objective method for requiring enhancements of non-motorized modes;
   - Base requirements on site-generated cumulative traffic;
   - Require an evaluation of system capacity for larger developments;
   - Consider an augmented methodology to determine required safety improvements; and
   - Provide an allowance for voluntary off-site capacity improvements (including non-motorized system capacity).

   Potential Action(s): *Consider an updated resolution and order.*

[1] The effort is to be informed by the Multimodal Performance Measures grant project.

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2. Develop methods for prioritizing Essential Services[2] for smaller development or lot partitions.

   For some smaller development or lot partitions it may be impracticable for the development to adequately implement all the Essential Services described in the CDC. In such circumstances staff must attempt to assess proportionality and consider trade-offs between the Essential Services included in the conditions of development approval. Providing guidance in the CDC could assist staff, community and developers with how to assess such trade-offs. If this recommendation is to be advanced, the Board should consider a separate long range planning work program item in the future.

   Potential Action(s): *Include as a potential ordinance in the 2018 Long Range Planning Work Program.*

3. Improve coordination between the function and roles of the CDC, the Road Design and Construction Standards and a new R&O.

   Potential Action(s): *In future amendments to these and other documents, consider the relationship between these documents and how adjustments in one may affect the others and the overall review process. As amendments are made to any of these documents, explicitly consider the implications for the other documents (if any). Consider a specific task in the 2018 Long Range Planning Work Program to identify interrelated sections of these documents and potential revisions to eliminate redundancies and streamline processes.*

Structure of the paper:
- Background and development review process overview
- Analysis (sections 1 through 8) and
- Recommendations

Background
This issue paper focuses on the requirements and procedures County staff utilizes to assess land development proposals in unincorporated areas. In particular, the focus is on the methodologies used to determine transportation-related improvements as a condition of development approval. This issue paper provides recommendations intended to guide the creation of an updated and revised resolution and order that spells out the procedures for determining the transportation-related requirements associated with development.

Washington County has several documents that describe the principles of providing adequate infrastructure at the time of land development. Appendix A to this issue paper contains an overview of the draft County 2020 Strategy Plan, the Washington County Comprehensive Plan, the Community Development Code (CDC) and other documents as these relate to transportation

[2] Essential Services are defined in article V of the CDC.

requirements and procedures during the land development process. These documents describe the infrastructure provision principles of the County and provide a framework for this discussion in this issue paper. In brief, these principles state the County will:

- Strive to balance the rights of the individual to control his or her land with broad community interests, including providing for the major transportation system;
- Require development within the Urban Growth Boundary (UGB) to include a full range of urban-level services; and
- Require development to contribute toward improvements to the transportation system to address the impacts of growth.

This issue paper does not address the appropriateness of the above principles and the existing land development review framework. No fundamental changes to these overall infrastructure provision principles are recommended by this issue paper. Rather, this issue paper evaluates the transportation-related requirements and procedures within the existing land development review policy framework. The recommendations and analysis assume that the current framework for land development review within unincorporated Washington County remains relatively the same.

Washington County regulates the development of land outside the cities primarily through the Community Development Code (CDC), which includes a number of transportation-related standards. The CDC allows staff to establish appropriate conditions of approval for development proposals. Transportation-related development review is a subset of the County's overall land use review process.

Development Review Process Overview

A general overview of the development review process in unincorporated Washington County is as follows:

- Initial phone call/counter visit with Current Planning – staff has preliminary discussion with property owner/developer about applicable policies and land use regulations;
- Pre-application Conference (optional for some development) – developer provides preliminary development concept for review by County staff; information about applicable land use policies and code sections is provided;
- Traffic Impact Statement (required pursuant to R&O 86-95 if the proposed development is expected to generate *more than 40 motor vehicle trips* on an average day). The Traffic Impact Statement is a summary of applicable transportation-related requirements for the proposed development.
- Current Planning and/or Hearings Officer evaluates development proposal; Notice of Decision issued for approval, approval with conditions or denial of development
- Transportation-related conditions of approval may include:
  - Right-of-way dedication;
  - Improvement of street frontage including full or half-street improvements based on the functional classification and design parameters of the frontage street;
  - New on-site streets (including street lighting, sidewalks, etc); and,
  - Required pedestrian accessways and/or easements for trails.

- Facility Permit/Engineering review – review of specific engineering plans (utility relocations, street lighting, roadway improvements, etcetera) based on Notice of Decision and conditions of approval.
- Construction of improvements and paying the Transportation Development Tax (TDT) and other System Development Charges (SDCs).

Transportation Elements of the Development Review Process

The transportation elements of the Development Review Process are generally controlled by several key documents. These include:

- County 2020 Strategic Plan
- Washington County Comprehensive Framework Plan for the Urban Area (CFP)
- Washington County Rural/Natural Resources Plan
- Washington County Transportation System Plan (TSP)
- Community Plans within applicable areas
- Washington County Road Design and Construction Standards
- Community Development Code (CDC)
- R&O 86-95 "*Determining Traffic Safety Improvements Under the Traffic Impact Fee Ordinance.*"

These documents work together to regulate the requirements of development within unincorporated Washington County. The Transportation Development Tax (TDT)[3] may influence the financial burden of some requirements including potential credit eligibility toward the charge. It should also be noted that this issue paper builds on Long Range Planning Issue Paper No. 2016-01 "*Solutions for Addressing Walkway Gaps in the Urban Unincorporated Area.*" See Appendix A for an overview and description of relevant related documents listed above.

Transportation improvements associated with development approval have been a significant source of infrastructure throughout Washington County. In 1986, the Board of Commissioners adopted R&O 86-95 "*Determining Traffic Safety Improvements under the Traffic Impact Fee Ordinance.*" This resolution created a safety assessment as part of the land use review requirements and procedures used for development and assisted with the establishment of transportation-related conditions of development approval.

The title of R&O 86-95 indicates that the development review process is combined with the Traffic Impact Fee (TIF). The TIF has been superseded and replaced by the Transportation Development Tax (TDT) but no changes to R&O 86-95 have been adopted.[4] One of the purposes of the TIF was to create a consistent charge and framework for transportation capacity improvements. R&O 86-95 was intended as a process to address safety considerations associated

[3] The TDT is not listed as a document, because it is a voter authorized tax on development, incorporated as part of the Washington County Code (Chapter 3.17). The TDT functions as a System Development Charge. More information regarding the TDT is available at: http://www.co.washington.or.us/tdt

[4] The Traffic Impact Fee (TIF) was superseded and replaced by the Transportation Development Tax (TDT) effective July 1, 2009.

with a proposed development, while TIF was intended to address the need for additional capacity on major roads (Arterials and Collectors).

The improvements mandated by R&O 86-95 are intended to ensure the safety of the traveling public. R&O 86-95 identifies the process for determining traffic safety mitigation that development is required to address. Working in concert with the CDC and the Road Design and Construction Standards (and other documents), R&O 86-95 establishes a safety-related process based on the Safety Priority Index System (SPIS). The emphasis of R&O 86-95 is on motor vehicle safety. Non-motorized safety is referenced but no evaluation methods are identified.

R&O 86-95 has served Washington County remarkably well over the last 30 years. Changes to these procedures could affect every division of the Department of Land Use &Transportation and, therefore the content of this issue paper has been considered department wide. Changes and updates to R&O 86-95 should be based on the departments' fundamental philosophy and goals with respect to providing infrastructure for new and re-development sites (discussed at the beginning of this section).

As staff reviewed the existing procedures, several issues were identified, including:

- An ongoing desire by the community for development to pay for a higher share of the county's needed transportation improvements and an increasing amount of scrutiny related to the requirements of development approval.
- The frequently limited ability to require private development to construct public improvements due to either (i) the lack of proportionality determinations, or (ii) procedures that limit the scope of review and/or requirements.
- Washington County's existing transportation-related review procedures focus solely on safety, frontage and access improvements. The procedures and requirements do NOT focus on capacity and rarely require off-site system enhancement.
- Staff is not always able to provide certainty regarding public improvement requirements early in the development process. Frequently, the transportation-related requirements can only be identified after the traffic impact statement and/or access report have been completed. Consideration of sight distance and motor vehicle capacity improvements often require a traffic study to determine the impact and necessary mitigation for a proposed development. However, the TDT rates and CDC provisions are known and available in advance.
- The transportation procedures and standards are contained in several separate documents (CDC, Road Design and Construction Standards, Transportation System Plan, Community Plans and R&O 86-95) each of which has been developed and amended at different times with a different focus.
- The type of development expected in the unincorporated urban area of Washington County is changing over time. The trend toward smaller-scale infill residential development is expected to continue. This type of development presents different challenges than larger sites.

One of the fundamental principles of R&O 86-95 is that applicants are not required to identify, analyze, or evaluate capacity deficiencies that may occur as a result of the proposed development. As a result, Washington County remains one of the few larger jurisdictions in the

Portland metro area that does not require applicants to provide a capacity analysis or similar traffic study as part of a development proposal.

Appendix B describes the relationship between the different transportation elements located in each planning document.

Analysis

The analysis section considers the existing transportation-related procedures that Washington County staff apply to review land development applications and discusses options for improving these procedures.

An assessment of the multimodal transportation system can be divided into on-site facilities and off-site facilities within the "impact area" as defined in R&O 86-95. This analysis section follows that approach, starting with on-site requirements and improvements, then expanding into off-site system evaluation, requirements, and improvements. Finally the analysis considers "voluntary" requirements and proportionality.

This analysis section covers the following topic areas:

1. Setbacks and on-site right-of-way dedication
2. Frontage improvements
3. Site Generated Cumulative Traffic and Impact Area
4. Off-site multimodal system evaluation
5. Off-site right-of-way
6. Voluntary Improvements and TDT Credit
7. Proportionality
8. Safety

A summary of the analysis is provided at the end of the analysis section.

1. <u>Setbacks and on-site right-of-way dedication</u>
   No changes to setback requirements or on-site right-of-way (ROW) dedication are recommended by this issue paper. Setback requirements are critical for the long term implementation of the transportation system. Setbacks can be used to protect needed future ROW from encroachment by development. On-site ROW dedication is required when proportional to the impacts of the proposed development.

   The setback and ROW requirements ensure that future road improvements have adequate space for expansion and are intended to avoid impacts to businesses and residents resulting from transportation projects. Both the setback requirements and ROW requirements are based on the Transportation System Plan (TSP) and the long term right-of-way width planned for the adjacent transportation facilities. The TSP emphasizes that development proposals should accommodate adopted roadway designations and not preclude needed

transportation infrastructure. Two special sections of the TSP identify types of facilities where the needed long-term right-of-way is not known.

A. Refinement Areas (Strategy 7.2.1) describe transportation facilities that are still conceptual in nature. While the intent to not preclude such facilities is clear, it may be difficult in practice to implement this strategy due to the unknown alignment (and perhaps other features) of the transportation improvement.
B. Intersections (and major intersections identified in the roadway lane numbers section of the TSP) are similar to Refinement Areas and may require additional ROW and/or setbacks to facilitate future transportation improvements. The specific needs and designs for intersections have not been defined in the TSP and it is difficult to apply unknown ROW and setback needs during the land development process.

Recommendation: No changes.

2. Frontage improvements

Local roads and neighborhood routes (including half-street improvements) on-site and connecting to the existing roadway system are defined as Critical Services in CDC section 501-8.1.B. These facilities are necessary for safe access to and from the proposed development. Improvements to Arterial and Collector roads abutting the development site are identified as Essential Services in CDC Section 501-8.2.B Half-Street improvements along the site's frontage of an existing or planned Arterial or Collector is required as an Essential Service in CDC Section 501-8.2.G. CDC Section 501-8.8.A defines half-street improvements and the necessary components that must be implemented. These half-street improvements are based on the TSP designation and must be constructed consistent with the Road Design and Construction Standards. This issue paper recommends that existing half-street frontage improvement requirements continue unchanged.

Recommendation: No changes.

3. Site-generated cumulative traffic and "impact area"

R&O 86-95 does not explicitly require development to consider the entire site-generated cumulative traffic when identifying the "impact area" of a new development. Only the impact area associated with the proposed new development is considered; the new development may be one of multiple phases or an addition to an existing development. R&O 86-95 defines the "impact area" of a development by road segments and/or intersections where the development-related traffic equals or exceeds 10 percent of the traffic. Under the current evaluation criteria, needed improvements or mitigation for a large development projects may be missed if a project is parsed into smaller phases.

Example: a new structure added to existing large campus

- Under the current procedures, the "impact area" is determined by the traffic associated with only the new structure. Only locations where the additional traffic generated exceeds 10 percent of the total would be evaluated.
- If the assessment considered the site-generated cumulative traffic, the impact area would be determined by the total traffic associated with all the uses plus the proposed structure

or development. Locations where the total traffic exceeds 10 percent of the existing traffic at a specific road segment or intersection would be evaluated.

Recommendation: Consider an updated resolution that addresses the transportation impacts of the entire site-generated cumulative traffic, not only the impact of the new development.[5]

4. Off-site multimodal system evaluation

An assessment of existing system conditions is necessary for any evaluation of the transportation system. The assessment of existing conditions should include both motorized and non-motorized modes within the impact area. In general, this level of reporting is already provided in Traffic Impact Statements required for development proposals that exceed 40 vehicles per day.

The existing requirements for off-site improvements are limited. The existing R&O 86-95 includes a single reference to off-site non-motorized improvements (D.2.2.2.3) needed for safety. All other off-site improvements address motor vehicle safety. Likewise, article V of the CDC focuses on frontage improvements.

Non-motorized system connection evaluation

CDC Section 501-10.2.E and F apply in the North Bethany subarea only. These sections require that development provide a direct, safe and continuous off-site interim bicycle and pedestrian connection in areas where the ultimate facilities have not been constructed. The connections in North Bethany are required to extend and tie into the existing system on the ground and focuses on connections to pedestrian-oriented uses. The CDC defines the length and number of non-motorized connections required in North Bethany. In some cases, the subject development may be required to acquire off-site easements and construct off-site improvements circumstances where the system is not complete.

Motor vehicle system capacity evaluation

Washington County does not currently have a requirement for the evaluation of motor vehicle capacity. However, the vast majority of Access Reports provide an assessment of motor vehicle capacity. Most jurisdictions in the region require development to provide a traffic study that includes an assessment of motor vehicle capacity. In unincorporated Washington County, capacity improvements are accounted for by payment of the TDT. The expense of capacity improvements varies based on site-specific circumstances. Capacity improvements that vary between sites add an element of uncertainty to the development project and therefore reduce the predictability of the requirements. The amount of traffic generated by a proposed development is typically used to provide thresholds for different levels of off-site motor vehicle traffic capacity evaluation.

[5] Proportionality would be determined based on site-generated cumulative traffic and account for any requirements associated with prior development actions. Benefit/cost calculation would be expected to remain unchanged.

A vehicle capacity evaluation and non-motorized system information is generally being collected and provided in most access reports. It therefore, seems reasonable that the requirements should reflect the existing common practice. Requiring development to include a multimodal system evaluation within the impact area may expand the County's database of known constraints and opportunities related to the proposed development.

Off-site improvement considerations, in available ROW[6], include both off-site non-motorized system connections and off-site motor vehicle capacity and safety.

Recommendations:
The following recommendations are provided for consideration:

A. An updated resolution could formalize that developer supplied transportation studies are required to provide a multimodal system evaluation incorporating an assessment of non-motorized modes and including a comparison of existing conditions to adopted facility standards.

B. The Board may wish to consider expanding the CDC requirements for non-motorized modes in North Bethany[7] either countywide or to other unincorporated urban areas (e.g., town centers). This recommendation has the potential for a broad range of diverse implications, many of which are beyond the scope of this issue paper. The appropriate size of developments required to implement such off-site system enhancements ought to be considered carefully as it relates to proportionality. The practicality, types of land use districts, length and number of connections to existing infrastructure should be considered through a public process. If the Board directs staff to consider this approach to non-motorized improvements in greater detail it may be included as a future long range planning work program task.

5. Off-site right-of-way

The ability to require off-site improvements can be limited by the lack of available off-site land area for public use. As a public entity (under both state and federal laws), Washington County is not allowed to acquire privately-owned land solely to support private development interests. Staff explored several concepts of facilitating the acquisition of appropriate ROW in advance of known development. Thus far, none of the concepts appear to be significantly better than allowing private development to buy ROW from willing sellers. ROW purchased as part of a development action for improvements to Arterial or Collector roadways is generally eligible for credit towards TDT obligations at the purchase price.

The County's current ROW acquisition process generally works well. The process requires that:

- The acquired ROW must be related to a County (or other public) transportation improvement project.

[6] Off-site ROW is discussed in #5 below
[7] CDC Section 501-10.2E and F.

- ROW is acquired after the Board declares necessity via resolution
  - The declaration of necessity declares the public purpose of the acquisition and defines the limits of the need, allowing for voluntary sale and acquisition of ROW or the use of eminent domain, if needed.
  - The declaration of necessity is important to ensure timely project delivery.

Staff explored the creation of a development-initiated ROW acquisition process. Any such process would need to be a new process separate from existing ROW acquisition practices for publically funded improvement projects. A new process would need to work with willing sellers exclusively and condemnation would not be allowed. Timing would continue to be an issue, in part due to sequencing of construction with the phasing of development and the limitation of working with willing sellers only. Any expenditure of public funds would require an appraisal and negotiation, as well as securing the transfer of the land area. In addition, there could be ongoing public and/or policy concerns about government operating on the behalf of private development.

Given the limitations of the public acquisition process the creation of a new ROW acquisition process is not recommended. The current practice of private transactions between willing sellers provides an opportunity for TDT credit eligibility based on the reasonable market value of the land acquired for transportation improvements.

Recommendation: No change, other than to encourage opportunities for voluntary improvements (see section 6 below).

6. Voluntary Improvements & Transportation Development Tax (TDT) Credit
Development is generally required to complete frontage improvements along an Arterial or Collector roadway (CDC 501-8.2.G). In some circumstances, development may continue the improvement beyond the immediate site frontage and/or complete improvements that are entirely off-site. Credit toward the TDT is only allowed for improvements that meet credit eligibility criteria as a qualified public improvement. This means that the improvements must be on an eligible facility (generally an Arterial or Collector) and "required to fulfill a condition of development approval."[8]

While the requirements of the TDT are administered consistently countywide, different jurisdictions coordinate their transportation requirements and procedures with the payment of the charge in different ways. For example, the city of Hillsboro integrates the payment of the TDT with other development requirements and is able to consider capacity improvements and the issuance of credits toward the TDT charge more broadly. The resulting city of Hillsboro process provides additional opportunities for development to build improvements that benefit both the transportation system and the development site.

As discussed previously (#5 above), public agencies are not able to acquire ROW for the benefit of private development. A "voluntary" improvement could be considered in

[8] Washington County Code 3.17.070; Washington County Code 3.17.030.AC

circumstances where the ROW for the improvement is unavailable and outside the control of the developing party. A "voluntary" improvement in this context is not explicitly subject to proportionality findings. A "voluntary" improvement may not be explicitly required by County regulations and/or criteria but could provide mutually beneficial multimodal system capacity consistent with the Transportation System Plan.

A "voluntary" condition of approval provides a developer the ability to request TDT credit for eligible portions of the improvement. Such a condition could be included in a developments' Notice of Decision in circumstances where the improvement would be an asset to both the development and the surrounding community. Such a condition of development approval could be worded as "*the development may*." The TDT code states that ROW credit for off-site improvements can be based on "the reasonable market value of land purchased by the applicant from a third party and necessary to complete that improvement."[9] No allowance or discussion of voluntary improvements is included in the TDT, the CDC or R&O 86-95. The practice of allowing for voluntary multimodal improvements could be included in the update of the transportation requirements and procedures for development. No change in TDT section of the Washington County Code would be necessary.

Recommendation: Provide an allowance in an updated resolution for "voluntary" improvements based on a traffic study submitted by the applicant and coordinated with the TDT credit eligibility criteria.

7. Proportionality

All requirements on development for public improvements must have an "essential nexus" to the proposed development and must be "roughly proportional" to the impact of the proposed development. The concept of proportionality has been expanded through court cases over recent years. Two aspects of proportionality are considered below.

a. Essential Nexus and Rough Proportionality Tests

The nexus and proportionality tests from the U.S. Supreme Court in the *Nollan* and *Dolan* cases are used by courts to determine if there is a Fifth Amendment taking.[10] Both tests must be met in the establishment of conditions of development.

- In *Nollan v. California Coastal Commission* (1987), the Court held that there was an insufficient nexus for the Coastal Commission to require the property owner to dedicate a public easement across beachfront property as a condition for rebuilding a house, and therefore the condition was an unconstitutional taking. As a result of the case, review authorities must make a clear connection – a nexus – between the required condition and the impact of the development. Staff must demonstrate that there is there a reasonable connection between the need for additional facilities and the growth generated by the development.

[9] Washington County Code 3.17.070.B.3.a

[10] A regulatory taking is a term which describes an inverse condemnation. The Fifth Amendment of the United States Constitution prevents physical acquisition of property or a portion thereof for a public purpose without just compensation. The courts have expanded takings jurisprudence to include the regulation of the use of property that is so extensive that it is tantamount to confiscation of the property.

- In *Dolan v. City of Tigard* (1994), the Court expanded the Nollan concept of nexus. This requires staff to demonstrate that not only a reasonable nexus exists between the required land and the development but that the exaction is "roughly proportional" to the impacts of the development. In Dolan, the requirement to dedicate land to the city for the construction of a public trail was ruled to be disproportionate to the impact of the development. Therefore, staff must demonstrate that if a reasonable connection exists, the required exactions are roughly proportional to the impacts of the development.
- In *Koontz v. St. Johns River Water Management District* (2013), the Court ruled that the *Nollan/Dolan* tests of nexus and rough proportionality must be satisfied in cases where money is required instead of improvements or dedication of land. Koontz effectively expanded the reach of nexus and proportionality considerations to include "fee-in-lieu" and other monetary exactions.

b. Lot of Record versus newly created lot or partition
The CDC defines "lot of record" in Article I, Section 106-117 as:

> **106-117 Lot of Record** (Applicable to all the urban districts). Any lot or parcel created by a lawful sales contract or deed and of record prior to March 26, 1984, the effective date of this Code. Two or more such lots or parcels which are contiguous and under identical ownership of record on the effective date of this Code shall be deemed separate lots of record only if the creation of the lot(s) or parcel(s) was approved by the county under a county partitioning or subdivision ordinance. A lot of record does not authorize development of a lot or parcel which does not comply with the requirements of a "parcel" as defined by Section 106-151.

A legal lot of record is more universally defined as any property that meets the zoning and land division laws in effect on the date it was put in its current configuration. Properties that are legal lots of record may be developed subject to conformance with applicable regulations. Building a single house on a residential lot of record is not a land use procedure under the CDC and is exempt from public facility requirements.

Construction on a lot of record in a commercial, industrial, or institutional district is a land use procedure and is generally subject to the CDC requirements in Article V. This exemption for residential lots assumes that the home to be constructed on the lot of record would not generate trips over and above what was already permitted on the site, and therefore conditioning the construction of public improvements would not be proportional to the development. Subdivisions and partitions creating new lots may be required to improve the public facilities.

Proportionality is a complex issue for staff to address. Staff is obligated to implement the requirements of the CDC. The CDC requirements often do not address the size or scope of the development proposal. As such, staff is often caught between the requirements and desires of community, and constitutional limits for the development being required to implement all the requirements described in CDC. Many proportionality determinations are made by the hearings officer. Staff relies upon the guidance of these hearings officer

decisions. A goal of staff in these circumstances is to require similar conditions of development approval for similar developments in similar situations. Another goal of staff in these circumstances is to avoid the expense of unnecessary and/or redundant appeals to the hearings officer. At times community members may take issue with staff attempting to balance proportionality-based determinations against well-intentioned CDC requirements.

Recommendation: Provide additional guidance in the CDC that can be used to clarify the trade-offs, particularly for smaller developments. This issue has the potential for a broad range of diverse implications, many of which are beyond the scope of this issue paper. If the Board directs staff to consider this in greater detail it may be included as a future Long Range Planning work program task (2018 or later).

8. Safety

The approach adopted in R&O 86-95 was to consider traffic safety improvements at locations with the highest accident rates weighted by severity over the most recent three-year reporting period (known as the Safety Priority Index System or SPIS). While the current SPIS approach is an excellent analytically quantifiable and defensible approach, several issues have been identified, including:

- The current SPIS approach only considers crashes after they occur.
- The current SPIS approach does not identify cost effective solutions – in many cases the only solution would be cost prohibitive.
- The current SPIS approach does not consider crash rates between similar locations.
- High variability in SPIS over time due to the weighting of fatal crashes.

Washington County staff is exploring additional methodologies that consider predictive crash factors.

Recommendation: An updated resolution may provide an allowance for new methodologies to determine hazard locations that utilize other factors rather than relying solely on the current SPIS approach.

Analysis Summary

The main points identified in the analysis section of this issue paper include:

- The existing framework principles for infrastructure provide a strong and balanced foundation for updating the transportation-related requirements and procedures for development.
- Setbacks and on-site ROW dedication requirements continue to be critical for the long term provision of the major transportation system. No changes to these requirements are proposed.
- Frontage improvements continue as Critical or Essential Services. Development may be required to fill in missing off-site improvements in appropriate circumstances. No changes to these requirements are proposed.
- Site-generated cumulative traffic should be used to define the impact area of a developing, re-developing or expanding site.

- An updated resolution should require an assessment of the off-site multimodal transportation system.
- The Board may wish to consider expanding the CDC requirements for non-motorized modes in North Bethany either countywide or to other unincorporated urban areas. Such an expansion has a broad range of diverse implications beyond the scope of this issue paper – and would be appropriate to include as a future Long Range Planning work program task.
- Off-site improvements present challenges, including:
  - The improvements must be in existing public ROW or ROW acquired and dedicated through private party agreements, and subject to TDT credit based on reasonable market value.
  - Off-site non-motorized and motor vehicle improvement needs should be evaluated for development within the impact area.
  - Voluntary improvements, and TDT credit, may facilitate development providing off-site improvements by providing an incentive.
  - Additional capacity requirements should be implemented through "voluntary" conditions of development approval.
- The opportunity for TDT credit may be utilized to encourage private transactions between willing sellers to dedicate off-site ROW associated with a proposed development.
- Proportionality continues to be a complex issue for staff to address and the level of scrutiny related to proportionality (through the courts system and otherwise) is also increasing.
- An updated resolution may provide an allowance for methodologies that utilize other factors rather than relying solely on the current SPIS approach to consider safety improvements.

Recommendations

Staff recommends further consideration of the following changes to the transportation requirements and procedures for development. These recommendations should be considered further by the Planning Commission and the Board of Commissioners.

1. **Update R&O 86-95 "*Determining Traffic Safety Improvements Under the Traffic Impact Fee Ordinance*" to:**

   Clarify the requirements for the transportation analysis associated with a development proposal. Substantial changes to the existing traffic study requirements are not envisioned to be necessary. Clearly articulating these requirements in a single summary document / handout could improve the overall process.

   Develop an objective method for requiring enhancements of non-motorized modes. Information regarding the existing non-motorized system can be collected as part of a required traffic study. The presence or absence of non-motorized facilities and a comparison to the current standards for these facilities should be included in the traffic study. The development of the methodology may require an incremental approach.[11] The first step

[11] The 2014 Multimodal Performance Measures and Standards Report investigated a number of options for measuring the performance of complete streets. None of the measures have been identified as practicable

would begin with requirements for the reporting and consideration of off-site non-motorized system gaps.

Long Range Planning Issue Paper 2016-01 (*Solutions for Addressing Walkway Gaps in the Urban Unincorporated Area*) and the Transportation System Plan identified that gaps in the non-motorized system that may present safety concerns. Such gaps may be filled-in as development or redevelopment occurs. An update of R&O 86-95 and/or the CDC may allow for appropriate off-site, non-motorized improvements. Several opportunities for requiring these improvements should be considered, including, but not limited to:

- Require development countywide to implement non-motorized connections to existing infrastructure, similar to the North Bethany requirements (CDC Section 501-10.2.D & E). Such requirements would need careful consideration of proportionality, based on size and scale of development compared to the amount of required improvement.
- Develop provisions in the CDC for interim, off-site, non-motorized improvements to be provided in locations where no system is currently in place. In many cases such interim, off-site, improvements can provide a system until such time that development or redevelopment is required to make on-site frontage improvements to ultimate standards.
- Change the TDT credit provisions to allow credit for off-site non-motorized improvements that are not built at the ultimate alignment, line and/or grade, or do not meet ultimate road standards as long as the improvement is included in the conditions of approval.
- Allow voluntary off-site non-motorized improvements, and issue TDT credit for such improvements (further discussion below).

Adjust requirements to be based on site-generated cumulative traffic.[12] The existing R&O 86-95 does not explicitly require the evaluation of the transportation system based on the site-generated cumulative traffic. Rather, the impact area is limited to the size and scale of only the proposed development. In cases where a large commercial or institutional use develops incrementally over time, the scale and scope of the entire development may never be evaluated. Adding the requirement for a proposed development to consider the impact area of the entire site would ensure that a complete evaluation is conducted. The evaluation itself would not change proportionality or benefit/cost determinations.

Require an evaluation of system capacity for larger developments.[13] The existing R&O 86-95 only focuses on safety. Most jurisdictions require an evaluation of system capacity as well as safety. Adding this requirement will provide an assessment of system capacity and predicted traffic operations which may inform the provision of voluntary improvements.

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alternatives for site-specific land development measures. It is expected that this report and the measures investigated will inform the development of the new resolution.

[12] Site-generated cumulative traffic is recommended by the Oregon Department of Transportations "Best Practices for Traffic Impact Studies, Final Report, SPR 614." The evaluation itself would not change proportionality or benefit/cost determinations.

[13] This recommendation does not mean that system capacity improvements would be required. Only the evaluation of system capacity would be required. Capacity improvements beyond the site frontage could be allowed as optional improvements.

Consider an augmented methodology to determine required safety improvements. A national emphasis on transportation safety has resulted in the development of the Highway Safety Manual (HSM). The HSM offers additional approaches for considering the existing and predicted safety of the system. There are a number of techniques available in the HSM for considering existing and predicted accident frequency. While no discussion of HSM techniques is provided in this issue paper, staff has been considering these techniques.

Provide an allowance for voluntary off-site capacity improvements (including non-motorized system capacity). Washington County's existing R&O 86-95 and CDC focuses on safety, frontage and access improvements. Capacity improvements are only considered to the extent they are a part of safety, frontage and/or access. The TDT is intended to provide for system capacity.

The provision of voluntary off-site capacity improvements would be appropriate where off-site ROW would need to be required from a third party. The TDT allows credit to be issued for the purchase of land necessary to implement improvements to an Arterial or Collector facility when required to fulfill a condition of development approval. Improvements that are not contiguous to the proposed development have additional credit eligibility. Several cities in Washington County administer and implement development requirements in conjunction with TDT credit eligibility considerations. Establishment of development conditions that allow for the voluntary provision of off-site improvements may enhance the provision of multimodal infrastructure. In some cases, the property developers may be able to work with adjacent or other nearby property owners to acquire the necessary ROW and implement transportation improvement pursuant to the "voluntary" condition.

Including an allowance for voluntary off-site capacity improvements in the conditions may facilitate the provision of the improvement. In these cases, the TDT credit is available on a dollar for dollar basis to the extent the improvement meets the eligibility criteria. The voluntary nature of the condition allows the developing property to implement the improvement. If an agreement cannot be reached with the third party, the developing property is still in a position where it can proceed without implementing the voluntary condition. Mutually beneficial improvements for the development and the community may be implemented within this framework of off-site voluntary multimodal capacity improvements.

Potential Action(s): *Two potential actions are listed below:*

A. Consider a resolution that updates transportation requirements and procedures for development that:
   i. Supersedes and replaces Resolution and Order 86-95.
   ii. Modifies requirements to consider the transportation impacts of the entire site, not only the impact of the development.

iii. Requires an evaluation of motor vehicle capacity as part of the development review process.[14]
iv. Encourages opportunities for voluntary ROW dedication and improvements providing TDT credit for development contributions as provided for in the TDT.
v. Provides guidance for implementing "voluntary" improvements based on a traffic study submitted by the applicant and coordinated with the TDT credit eligibility criteria.
vi. Allows for additional methodologies to identify safety improvements beyond the current SPIS approach.

B. Consider expanding North Bethany multimodal connection requirements countywide. This has the potential for a broad range of diverse implications, many of which are beyond the scope of this issue paper. If the Board directs staff to consider this approach to non-motorized improvements in greater detail, it may be included as a future Long Range Planning work program task.

2. Consider guidance for prioritizing Essential Services for smaller developments.

For some smaller lot partitions it may be impracticable for the development to adequately implement all the Essential Services described in CDC section 501-8.2. In such circumstances staff must attempt to assess proportionality and consider trade-offs between the Essential Services listed. Each development is unique and some predictability within these Essential Services is desired. The inclusion of guidance in the CDC could assist staff with how to assess such trade-offs and encourage decisions that best implement the interest of the public. If this recommendation is to be advanced, the Board should consider a separate Long Range Planning work program item in the future.

Potential Action(s): *Potentially add item to the long range planning work program.*

3. Clarify and provide better coordination between the function and roles of the CDC, the Road Design and Construction Standards and the R&O for Transportation Requirement and Procedures for Development.

Each of these three documents has been developed and adopted through an independent process, at a different time and for a different purpose. The development and updates for each has considered the goals and objectives of that independent process and may not have adequately considered the other related documents. The role of each of the documents in the development review process is discussed below.

A. The CDC functions as a single document that regulates development. Certain elements of transportation engineering standards have been included in the CDC, for the following reasons:

[14] This recommendation does not mean that system capacity improvements would be required. Only the evaluation of system capacity would be required. Capacity improvements beyond the site frontage could be allowed as voluntary improvements, *infra*

- Only the CDC needs to be referenced by all development applications. No additional outside document (such as the Road Design and Constructions Standards) is necessary for review of certain applications.
- Appeals and review of development conditions are based only on the CDC and do not reference the Road Design and Construction Standards. Therefore, appeals of development conditions do not result in appeals of the Road Design and Construction Standards.
- Often there is an overlap of engineering and planning objectives that are best resolved through a comprehensive land use process. For example site access locations that may provide maximum roadway safety and capacity may conflict with development needs.

B. The Road Design and Construction Standards establish the technical engineering requirements for public roadway improvements. The standards are based on modern design principles as well as practical construction methods, and are intended to:
   - Provide a safe and reliable multimodal transportation system;
   - Preserve, protect and improve the county's transportation infrastructure;
   - Ensure the long-term viability of the transportation system; and
   - Avoid unnecessary and excessive maintenance and replacement costs.

   In the context of development review, the Road Design and Construction Standards are referenced in order to implement the conditions of development approval.

C. The updated Resolution and Order will provide procedures that staff will follow to determine appropriate transportation-related development requirements. These procedures do not affect land use, but rather guide staff on how to evaluate a development's impact on the transportation system and identify appropriate mitigation requirements. As an administrative document, the procedures have been adopted by resolution rather than ordinance. The role of this document is to guide the measurement and definition of appropriate and proportional transportation improvement requirements consistent with other adopted (typically by ordinance) regulations (Community Development Code) and standards (Road Design and Construction Standards).

In addition to the documents discussed here, the Washington County TSP and Community Plans provide guidance. All of these regulatory documents are intended to work together to help create "complete" communities where transportation needs and livability are well-balanced.

In summary, this recommendation is that the CDC, the Road Design and Construction Standards and the updated resolution should be internally consistent with each other. Where there are inconsistences these should be noted. In some case the inconsistency may be intentional, and signal a need for a change to the other document(s). In other circumstances, the inconsistency may have developed over time and not discovered until a particular situation creates a need. As these documents are amended over time, existing inconsistencies should be reduced. Staff working on transportation-related amendments to any of these

documents should coordinate with other staff members and ensure these documents continue to work together cohesively.

Potential Action(s): *In future amendments, consider the relationship between these documents and how adjustments in one may affect the others and the overall review process. As amendments are made to any of these documents, explicitly include the implications to the other documents (if any). Consider a specific task in the 2018 Long Range Planning Work Program to identify inter-related sections of these documents and potential revisions to eliminate redundancies and streamline processes.*

Appendix A: Summary of related documents

Washington County has a number of additional documents related to the transportation development review process and requirements:

a. County 2020 Strategic Plan
The Discussion Draft County 2020 Strategic Plan updates the County 2000 Strategic Plan and maintains the same fundamental philosophies. The County 2000 Strategic Plan was initially adopted in 1986 and established the foundation for the approach to the provision of urban services and review of development proposals. The Draft 2020 Strategic Plan builds on the County 2000 Strategic Plan. The Draft County 2020 Strategic Plan provides the underlying philosophy and approach that has been used for transportation-related development review requirements. It does not contain any standards or requirements that directly relate to transportation development review.

The Draft County 2020 Strategic Plan establishes the County as primarily a provider of countywide services. Such services are defined to include providing major transportation systems but expressly limit municipal and local services. The Land Use & Transportation Goal in the Strategic Plan provides that the County will strive to balance the rights of the individual to control his or her land with broad community interests, including providing major transportation systems. Core strategies[15] related to transportation review requirements include:

- Provide broad comprehensive land use planning in the unincorporated areas of Washington County
- Require development within the UGB to include a full range of urban-level services
- Maintain self-sufficiency (through fees) of current planning and land development and building programs
- Concentrate on maintaining and participating in various regional and state planning efforts, to develop rules to manage growth and maintain community livability
- Assume a leadership role for land use and transportation planning
- Regularly update the County Transportation System Plan and work to continuously improve the countywide road system
- Require development to contribute toward improvements to the transportation system to address impacts of growth

b. Washington County Comprehensive Plan
The Washington County Comprehensive Plan is divided into separate sections which include the: Comprehensive Framework Plan for the Urban Area (CFP), Rural/Natural Resource Plan, Community Development Code (CDC), Community Plans and Transportation System Plan (TSP). All of these documents provide guidance for development. The CFP identifies 44 policies for managing growth in the urban area. In addition, the Community Plans apply within their respective geographic boundaries within the urban area. In contrast, the Rural/Natural Resource Plan identifies 29 policies for guiding land use decisions in rural

[15] The core strategies begin on Page 11 of the Draft County 2020 Strategic Plan.

areas. In the CDC, various procedures and requirements apply to development in both the rural and urban unincorporated areas, with different requirements for urban and rural development. This issue paper is intended to focus on the general requirements for development within the urban area and does not reflect specific requirements associated within any of the community plans.

c. Rural/Natural Resource Plan
The rural areas of Washington County are not subject to the same type or scale of land development as the urban areas. Within rural areas the type and scale of transportation-related requirements generally focuses on safety. Policy 23 of the Rural/Natural Resource Plan provides guidance for the development of the transportation system to serve rural areas. Land development within rural areas must comply with the provisions of the CDC and implement improvements to serve development consistent with the adopted Road Design and Construction Standards, and must pay appropriate charges such as the TDT.

d. Transportation System Plan (TSP)
The TSP serves as both a policy document and a regulatory document. Its policies describe a broad set of goals and strategies for the movement of people and goods throughout the county. The TSP also includes standards regarding functional classification, number of lanes, pedestrian, bicycle and transit facilities and refinement areas. At a minimum, development must demonstrate that it will not preclude the facilities identified by the TSP. Compliance with the TSP designations relies up on the application of the CDC and sound civil engineering principles and judgement.

e. Community Plans
Within urban unincorporated Washington County, Community Plans serve as elements of the Washington County Comprehensive Plan. Many of these Community Plans have transportation elements. These elements are intended to relate the location and/or design of transportation system improvements to the aspirations and aesthetics of the community.

f. Road Design and Construction Standards
The Road Design and Construction Standards establish the technical engineering design and construction requirements for public road and bridge improvements under Washington County's jurisdiction. The Road Design and Construction Standards incorporate roadway classification terminology that is consistent with the TSP and CDC. The provisions of these standards and specifications are intended to provide a safe and reliable transportation system and to preserve, protect, and improve public transportation infrastructure.

g. Community Development Code (CDC)
The purpose of the CDC is to implement the Washington County Comprehensive Plan through planning and development regulations which provide for the health, safety and general welfare of the citizens of Washington County. The CDC specifies the standards and requirements of the Community Plans, the Rural/Natural Resource Plan, and the TSP that are applicable to development applications, including, but not limited to, urban land divisions.

The major transportation-related development requirements established by the CDC are found in Article V, Public Facilities and Services. These requirements are applicable to most types of development that will generate more than a minor (40 trip) increase in traffic to the development site. The transportation requirements of Article V are grouped into the following subsections:

- Site Access: Sight distance and spacing standards (determined by roadway classifications in the TSP)

- Dedication of right-of-way pursuant to the TSP and the Road Design and Construction Standards

- Critical Services
  - Planned or existing Local and Neighborhood Route streets lying within the site's boundaries constructed to Washington County Road Design and Construction Standards.
  - Twenty two-foot wide paved surface with a 5-year wearing surface along public right-of-way between the site and nearest Collector or Arterial likely to receive the most amount of traffic from the development.
  - Right-of-way dedication meeting Functional Classification standards.
  - Extension of adjacent stub streets for Local and Neighborhood Routes on adjacent properties onto site.
  - Half-street improvements along the site's frontage for Local and Neighborhood Routes.

- Essential Services
  - Road right-of-way.
  - Street lighting.
  - Adequate planned or existing Arterial and Collector streets lying within the site's boundaries are constructed to Washington County Road Design and Construction Standards.
  - Half-street improvements along the site's frontage for Arterial and Collector streets.
  - Transit improvements and regional trails.
  - Water Quality and Quantity facilities.
  - Right-of-way reserved for future transit facilities.

- Desirable Services
  - Walkways, community trails, and other bicycle and pedestrian facilities.

Other transportation-related requirements in the CDC include:

- Sight distance and roadway access requirements.
- Section 408, Neighborhood Circulation: Standards for on-site circulation, pedestrian and bicycle accessways, maximum block length and perimeter, and the requirement to continue adjacent street and accessway stubs.
- Section 409, Private Streets: Circumstances under which private streets are allowed and design standards for private streets.

- Section 418, Setbacks: Based on ultimate right-of-way width as determined by the TSP and sight distance and access provisions.
- Section 502, Sidewalk Standards: Requirements for when sidewalks are to be provided and sidewalk width.

h. Transportation Development Tax

The Transportation Development Tax (TDT) was approved by countywide vote on Measure 34-164 in November 2008. The TDT replaced the previous tax, known as the Traffic Impact Fee (TIF), previously adopted in 1986 and passed in 1990. The TDT increased the previous TIF rates and updated various procedures. The TDT is paid by development based on the impact the development has on the transportation system. The TDT is levied in the unincorporated areas as well as within cities.

The TDT is generally assessed and payable prior to the issuance of a building permit. Options exist for allowing payment of the tax over time, or in certain cases, authorizing deferral of payment until occupancy. Credit toward the TDT may also be approved for construction of eligible transportation improvements.

i. Long Range Planning Issue Paper 2016-01 (Walkway Gaps)

This issue paper identified a number of potential solutions to address gaps in pedestrian facilities. Several of the recommendations refer to updates to R&O 86-95.

Appendix B: Transportation System Elements located in each planning document

Transportation / Roadway Element	Subcategory	Transportation System Plan	Community Development Code	R & O 86-95
Right-of-way	General	Table 3-9 [based on designations in Figure 3-8, Functional Classification; Figure 3-10, Lane Numbers; Figure 3-11 & 12, Special Streets Overlay; Figure 3-24, Pedestrian System; Figure 3-27, Bicycle System; Interim Designations (TSP User Guide 64)]. See table footnotes (e.g., additional lanes near intersections)	§501-8.4, Dedication of Right-of-way; §501-8.1.B.2.e (ROW for local and neighborhood route) ; §501-8.1.E (TO District easement); §501-8.2.B.3 (ROW for Arterial and Collector); §501-8.2.H (TO District easement); §501-8.2.D (ROW for transit corridor);§501-8.2.J (ROW/easements per TSP Pedestrian system designations)	
	Refinement Areas	Refinement Area & Trail Refinement Area (Figure 3-8 page 89 TSP User Guide; Figure 3-24)		
Street / Intersections	Abutting streets (existing)		§501-8.1.B.4 (1/2 street improvements for local and neighborhood routes); §501-8.2.G (1/2 street improvements for Collector and Arterial)	Fix existing hazards where site traffic >= 10% of existing traffic and B/C ratio > 1; (D.1.1)
	On-site roads	Objective 7.1 Provide an interconnected transportation network that offers multi-modal travel choices and minimizes out-of-direction travel for all modes.	§501-8.1.B.1 (improvements for local and neighborhood routes); §501-8.2.F (improvements for Collector and Arterial routes); §501-8.3.A (traffic calming); Local street connectivity maps	
	Off-site roads	Objective 6.1 Provide an accessible, multimodal transportation system that meets the needs of the community.	§501-8.1.B.2.a & b (22' paved width with 5 year wearing surface to Collector/Arterial); §501-8.3.A (traffic calming)	Clear vision at intersections that serve the site (D.1.2.2.5);
	Off-site intersections			Within Impact Area: Signalization as warranted based on existing traffic (D.2.1.1); Improvements to signalization at identified hazard locations (D.2.1.2); Improvements to unsignalized intersections (D.2.1.3); Signalization as warranted based development's traffic (D.2.2.2.1); Left turn pocket as warranted based on development's traffic (D.2.2.2.2)
	Illumination	Objective 1.5 Illuminate the transportation system appropriately.	§501-8.2.C (street lighting per WCRDCS on new streets and ½ street improvements)	Illumination at intersections that serve the site (D.1.2.2.5); Illumination at site access points (D.1.2.2.6)
Sidewalks and Pedestrian Improvements	On-site	Rural Pedestrian Activity Areas(TSP User Guide 139-140); Figure 3-24, Pedestrian System; Figure 3-23, Enhanced Crossing Study Corridors; Pedestrian Parkway and Streetscape Overlay design criteria and considerations (TSP User Guide 141-142);	§501-8.2.J (improvements per TSP Pedestrian system designations); §501-8.3.A (on or off street accessways, on- and off-site pedestrian walkways, mid-block crossings, off-street trails and pathways); §502-3 (sidewalk standards) §502-13 (8' sidewalk on certain highways); Other design standards as specified (e.g. Cedar Hill-Cedar Mill ASC 12 with wider sidewalks)	Sidewalks on site frontage (D.1.2.2.3)
	Off-site	Objective 6.1 Provide an accessible, multimodal transportation system that meets the needs of the community	§501-8.3.A (on or off street accessways, on- and off-site pedestrian walkways, mid-block crossings, off-street trails and pathways)	Off-site sidewalks in impact area (D.2.2.2.3)

Transportation / Roadway Element	Subcategory	Transportation System Plan	Community Development Code	R & O 86-95
Bicycle Facilities		Figure 3-27, Bicycle System; Bicycle Facility design criteria and considerations (TSP User Guide 159-160)	§501-8.3.A (on- and off-site bicycle facilities)	
Site Access	Access Spacing	Strategy 5.3.5 Help provide a roadway system that addresses travel demand associated with anticipated new development or redevelopment, by applying appropriate access management standards as defined and required within the Community Development Code (CDC).	§501-8.5, Access to Public Roads; §501-8.2.B.3 (access spacing on Collector and Arterials); §440-10 (non-conforming access)	
	Traffic capacity	Table 3-1 Interim Washington County Motor Vehicle Performance Standards		Signalization as warranted (D.1.2.2.1); Left turn refuge lanes (D.1.2.2.2);
	Intersection clear vision	Strategy 1.3.1 Require development to address safety deficiencies identified on the SPIS List or in other sources, through the development review process described in the Community Development Code (CDC), as appropriate.	§501-8.5.F,Sight Distance; §501-8.1.B.2.d (sight distance on local and neighborhood routes); §501-8.2.B.3 (sight distance on Collectors and Arterials);	Intersection sight distance at access points (D.1.2.2.4)
Transit		Figure 3-29 Transit System Map	§380, Transit Overlay District; §501-8.2.(c); §501-8.2.A.2.c (transit as identified in Service Provider Letter)	
Trails / Accessways		Regional Trail and Community Trail design criteria and considerations (TSP User Guide 142-143)	§501-8.2.L (on or off-site Regional Trail); §501-8.3.A (Community trail); §408-5, 6 (Street connectivity standards); §408-8 and 9 (Accessway, Trail, and Greenway Design); §408-11 (Community Plan Connectivity Areas)	
On-site design / circulation	General Urban	Objective 7.1 Provide an interconnected transportation network that offers multi-modal travel choices and minimizes out-of-direction travel for all modes.	§408, Neighborhood Circulation; §418-2 (setback for future ROW)	
	Pedestrian Designations	Rural Pedestrian Activity Areas(TSP User Guide 139-140); Pedestrian / Bicycle Districts (TSP User Guide 140); Figure 3-24, Pedestrian System	§375, Transit Oriented Districts; Local street connectivity maps	

DRAFT

Transportation Requirements and Procedures for Development

October 25, 2017

WASHINGTON COUNTY
BOARD OF COMMISSIONERS

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DEPARTMENT OF LAND USE & TRANSPORTATION

ANDREW SINGELAKIS, DIRECTOR

Introduction
This Resolution and Order establishes requirements and procedures for determining transportation-related conditions of development approval within unincorporated Washington County or access to a county roadway.

Overview
This Resolution and Order provides a compilation of various procedures and requirements for development within unincorporated Washington County. The objective of this Resolution and Order is to document the process by which the Department of Land Use & Transportation determines the transportation improvements associated with a development proposal.

Background
This Resolution and Order updates and supersedes Resolution and Order 86-95 "*Determining Traffic Safety Improvements Under the Traffic Impact Fee Ordinance.*" The basic approach assumed in Resolution and Order 86-95 was that the Traffic Impact Fee (TIF) would address capacity concerns. A safety evaluation was necessary to help assure the safety of the traveling public. The TIF was updated and replaced by the Transportation Development Tax (TDT) effective July 1, 2009. The TDT continued within the same framework established by the Traffic Impact Fee. Resolution and Order 86-95 safety evaluation continued to be utilized for safety-related review as previously adopted.

The basic approach established in by Resolution and Order 86-95 has served Washington County for more than 30 years. This Resolution and Order retains the same basic approach as Resolution and Order 86-95 but builds on the principles by:

- Clarifying the requirements and procedures for analysis required by the applicant; and
- Reinforcing the safety considerations associated with non-motorized travel modes; and
- Allowing consideration of a broader range of safety considerations; and
- Providing for an assessment of motor vehicle capacity and multimodal transportation connectivity.

This Resolution and Order follows deliberate consideration of the Transportation Requirements and Procedures for Development outlined in Long Range Planning Issue Paper No. 2017-03.

Application
Development within unincorporated Washington County that accesses a state highway facility or a city roadway requires approval from the Oregon State Department of Transportation (ODOT) or the City. The analysis must meet ODOT or city requirements in addition to the requirements of this Resolution and Order. For other development, any access to a county roadway shall be permitted only upon issuance of an access permit and upon demonstration of compliance with the provisions of the Community Development Code, the County Road Standards and the requirements of this Resolution and Order.

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Definitions

1. **Bicycle Impact Area.** The most direct route(s) to nearest key destination(s). The Bicycle Impact Area includes the Motor Vehicle Impact Area or, extends from the property boundary up to one mile along nearest Arterial or Collector, whichever is greater.

2. **Bicycle Safety Area.** The Bicycle Safety Area shall extend from the property boundary in both directions along the nearest Arterial or Collector a minimum of 500 feet or one foot per Site-Generated Cumulative Traffic (daily) up to a maximum of one mile, whichever is greater.

3. **Current Traffic.** Traffic volumes measured within the previous 12 months of the development application submittal as approved by the County Engineer.

4. **Design Year Traffic.** The sum of Current Traffic, Off-Site Traffic Growth, and Site-Generated Cumulative Traffic, at such time the development is fully constructed (built out) and occupied.

5. **Development Traffic.** The number of trips anticipated to be generated by the proposed development at such time the development is fully constructed (built out) and occupied, as approved by the County Engineer.

6. **Existing Hazard Location.** A Safety Priority Index System (SPIS) Hazard Location or Other Existing Hazard Location.

7. **Existing Site-Generated Traffic.** The vehicular traffic entering and exiting the development site, and any contiguous or adjacent property in the Same Development, measured within the previous 12 months of the development application submittal, or as approved by the County Engineer.

8. **Frontage.** That portion of a development site, which abuts a public road. If a development site does not abut a public road, the location where the site accesses a public road.

9. **Infrastructure Gap.** A section of bicycle or pedestrian infrastructure that is missing between completed sections of infrastructure.

10. **In-Process Traffic.** The projected traffic from approved development(s) not yet occupied.

11. **Key Destinations.** Key destinations are off-site destinations likely to attract bicycle and/or pedestrian trips to and/or from the proposed development and may include schools, transit stops, parks, commercial centers, medical facilities, essential services and/or other areas. Key destinations must be approved by the County Engineer.

12. **Link.** A section of roadway which includes the intersection at both ends. The end points of a road link will be at a Collector or a roadway of higher classification.

13. **Motor Vehicle Impact Area.** The Motor Vehicle Impact Area for development will be those road Links where Site-Generated Cumulative Traffic equals or exceeds 10 percent (10%) of the Current Traffic but including at a minimum those roads adjacent to and between the development and the nearest Arterial or Collector road. Links within the Motor Vehicle Impact Area are considered to have a significant increase in traffic.

14. **Motor Vehicle Safety Area.** The Motor Vehicle Safety Area for development will be those road Links where Site-Generated Cumulative Traffic equals or exceeds 10 percent (10%) of the Current Traffic but including at a minimum those roads adjacent to and between the development and the nearest Arterial or Collector road. Links within the Motor Vehicle Safety Area are considered to have a significant increase in traffic.

15. **Off-Site Traffic Growth.** Traffic increase due to sources other than the proposed development, which includes in-process traffic.

16. **Other Existing Hazard Location.** Other Existing Hazard Locations will be determined by the County Engineer with techniques consistent with the Highway Safety Manual. Other Existing Hazard Locations may be identified at locations where:
    - Existing safety hazards have been identified through another process;
    - The previous year(s) SPIS identified hazards and no significant safety enhancements have been made;
    - The accident rate has been determined to significantly exceed the anticipated accident rate for similar locations, or;
    - Bicycle and/or pedestrian risk factors present an unacceptable hazard.

17. **Pedestrian Impact Area.** The most direct route(s) to nearest key destination(s). The Pedestrian Impact Area includes the Motor Vehicle Impact Area or, extends from the property boundary up to one mile along nearest Arterial or Collector, whichever is greater.

18. **Pedestrian Safety Area.** The pedestrian safety area shall extend from the property boundary in both directions along the nearest Arterial or Collector a minimum of 500 feet or one foot per Site-Generated Cumulative Traffic (daily) up to a maximum of one mile, whichever is greater.

19. **Primary Route(s).** Street connection(s) between the development site and nearby Arterial(s) and/or Collector(s) as approved by the County Engineer.

20. **Predicted Hazard Locations.** Locations where safety improvements are warranted due to increased traffic resulting from the development.

21. **Safety Improvements.** Those improvements necessary to protect the traveling public as approved by the County Engineer.

22. **Safety Priority Index System (SPIS).** A screening tool used to identify potentially hazardous locations. The SPIS is compiled from crashes reported to the Oregon Department of Transportation and includes three consecutive calendar years of crash data. Locations included have three or more crashes or at least one severe injury or fatal crash. Locations identified where Washington County has jurisdiction are candidate hazard locations.

23. **Safety Priority Index System (SPIS) Hazard Location.** The highest 50 percent (50%) of Safety Priority Index System (SPIS) candidate locations.

24. **Same Development.** Property or properties adjacent or next to the development site that are approved as a phase of a larger overall development, or contain a use(s) that is interrelated with the use(s) on the development site and including, but not limited to, multiphase developments and/or expansion of an existing development.

25. **Site-Generated Cumulative Traffic.** The average daily Development Traffic plus the Existing Site-Generated Traffic estimated from the Same Development site, including all phases of the proposed development, as approved by the County Engineer.

CHAPTER 1

Transportation Requirements and Procedures

Land use actions that generate less than 40 Site-Generated Cumulative Traffic vehicle trips per day are excluded from additional transportation analysis beyond compliance with the provisions of the Community Development Code (CDC). Land use actions that generate 40 or more Site-Generated Cumulative Traffic vehicle trips per day shall be classified as one of the following categories; unless state law mandates additional procedures for that particular land use action or category of land use action, or additional procedures are otherwise specified in the CDC:

Category A. Site-Generated Cumulative Traffic of 40 or more vehicle trips per day and less than 200 vehicle trips per day.

Category B. Site-Generated Cumulative Traffic of 200 or more vehicle trips per day and less than 500 vehicle trips per day.

Category C. Site-Generated Cumulative Traffic of 500 or more vehicle trips per day.

Calculation of Site-Generated Cumulative Traffic

The applicant must supply an estimate of Site-Generated Cumulative Traffic based on the most recent edition of the Institute of Traffic Engineers (ITE) Trip Generation Manual.[1] The average weekday and/or weekend traffic, as approved by the County Engineer, may be most suitable for the proposed use. Where trip generation rates are not listed in the ITE Trip Generation Manual or justification can be made for the use of different rates[2], approval of the rate(s) must be obtained from the County Engineer prior to use.

Category A Transportation Requirements and Procedures

Category A projects must comply with the provisions of the CDC and demonstrate that the following provisions are met:

1. Access locations and intersections that serve as the primary route(s) for traffic to and/or from the development site shall be adequately illuminated with street lighting in accordance with the current Washington County Roadway Illumination Standards.[1]

2. Access locations and intersections that serve as the primary route(s) for traffic to and/or from the development site that are hazardous due to inadequate sight distance shall be improved to meet or exceed the county standard.[1]

Category B Transportation Requirements and Procedures
Category B projects must comply with the provisions of the CDC and comply with the provisions in Chapter 2 of this Resolution. The applicant is required to provide the following documentation:

Peak Period Calculation of Site-Generated Cumulative Traffic
In addition to estimates of average weekday and/or weekend traffic, estimates of Site-Generated Cumulative Traffic must be made for peak periods, for design purposes. Selection of the peak periods used in the analysis will be approved by the County Engineer but will include, as a minimum, AM and PM peak periods. Site-Generated Cumulative Traffic estimates will be based on the most recent edition of the ITE Trip Generation Manual. Where trip generation rates are not listed in the ITE Trip Generation Manual or justification can be made for the use of different rates[2], approval of the rate(s) must be obtained from the County Engineer prior to use.

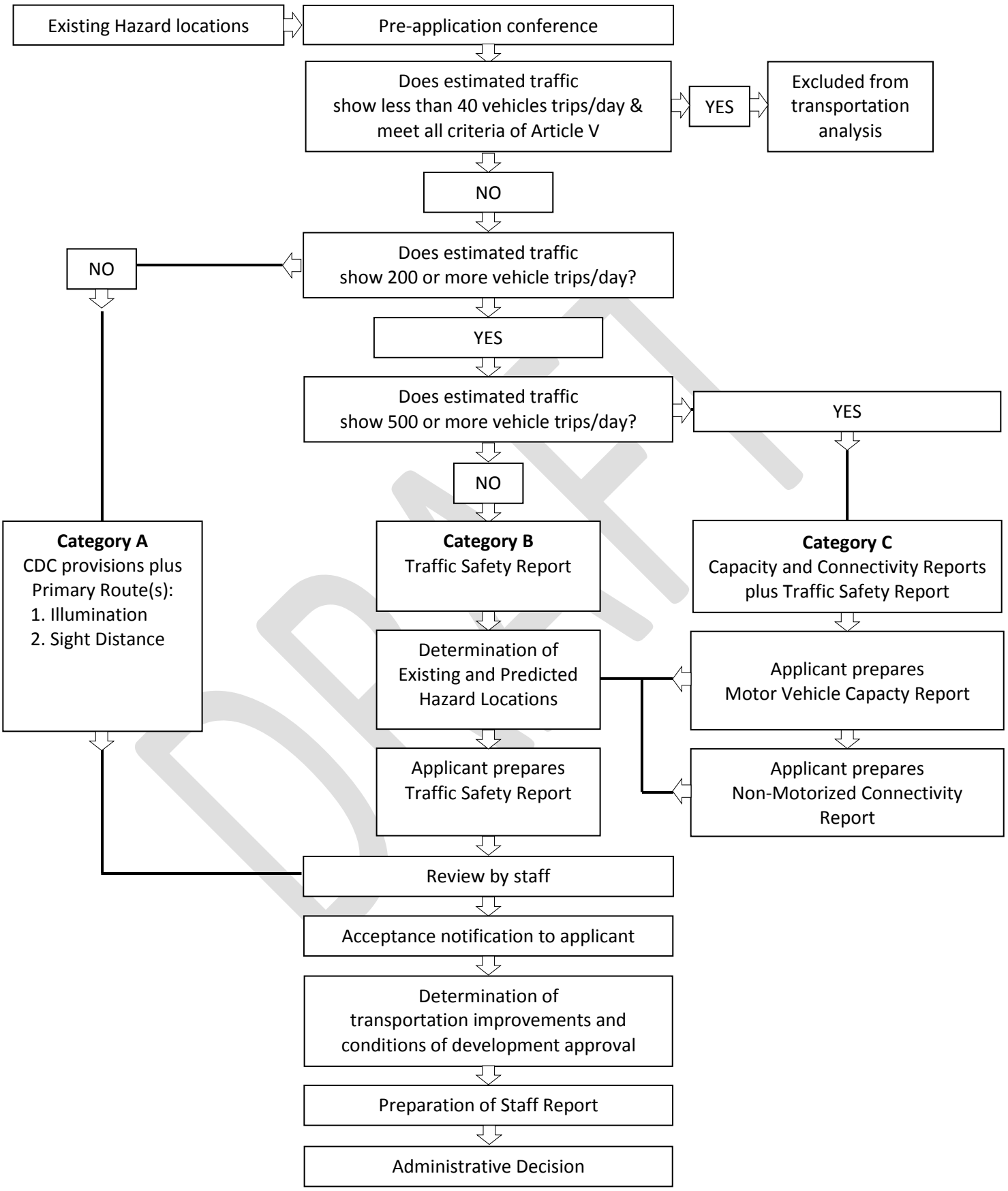
Traffic Safety Report
The applicant must provide a Traffic Safety Report consistent with the requirements of Chapter 2 of this Resolution and Order. Unmitigated safety hazards may be the basis for recommendation for denial of a development application or imposition of additional required improvements based on CDC standards.

Category C Transportation Requirements and Procedures
Category C projects must comply with the provisions of the CDC and comply with the provisions in both Chapter 2 and Chapter 3 of this Resolution. The applicant is required to provide the following documentation:

Peak period calculation of Site-Generated Cumulative Traffic
In addition to estimates of average weekday and/or weekend traffic, estimates of Site-Generated Cumulative Traffic must be made for peak periods, for design purposes. Selection of the peak periods used in the analysis will be approved by the County Engineer but will include, as a minimum, AM and PM peak periods. Site-Generated Cumulative Traffic estimates will be based on the most recent edition of the ITE Trip Generation Manual.[1] Where trip generation rates are not listed in the ITE Trip Generation Manual or justification can be made for the use of different rates,[2] approval of the rate(s) must be obtained from the County Engineer prior to use.

Traffic Safety Report
The applicant must provide a Traffic Safety Report consistent with the requirements of Chapter 2 of this Resolution and Order. Unmitigated safety hazards may be the basis for recommendation for denial of a development application or imposition of additional required improvements based on CDC standards.

Motor Vehicle Capacity Report and Non-Motorized Connectivity Report
The applicant must provide a Motor Vehicle Capacity Report and Non-Motorized Connectivity Report consistent with the requirements of Chapter 3 of this Resolution and Order.


Existing Hazard locations
Pre-application conference
Does estimated traffic show less than 40 vehicles trips/day & meet all criteria of Article V
YES
Excluded from transportation analysis
NO
Does estimated traffic show 200 or more vehicle trips/day?
NO
YES
Does estimated traffic show 500 or more vehicle trips/day?
YES
NO
Category A
CDC provisions plus
Primary Route(s):
1. Illumination
2. Sight Distance
Category B
Traffic Safety Report
Category C
Capacity and Connectivity Reports plus Traffic Safety Report
Determination of Existing and Predicted Hazard Locations
Applicant prepares Motor Vehicle Capacty Report
Applicant prepares Traffic Safety Report
Applicant prepares Non-Motorized Connectivity Report
Review by staff
Acceptance notification to applicant
Determination of transportation improvements and conditions of development approval
Preparation of Staff Report
Administrative Decision

CHAPTER 2

TRAFFIC SAFETY REPORT REQUIREMENTS

This chapter contains the criteria for a Traffic Safety Report and identification of required traffic safety improvements. A Traffic Safety Report identifies when traffic safety improvements are required. The following criteria will be used to determine when traffic safety improvements will be required as a condition of development.

A. Objective of Traffic Safety Improvements

A.1. Existing Hazard Locations:

Existing Hazard Locations must be improved before development-related traffic is added to the system.

A.2. Predicted Hazard Locations:

Traffic safety improvements must be completed to mitigate the Predicted Hazard Locations caused by the development.

B. Level of Improvement

B.1. Existing Hazard Locations when warranted:

Existing Hazard Locations are identified through an analysis of accident data and/or existing conditions, and have been determined to present an unacceptable risk to the traveling public's safety. Improvements may be required to address these existing deficiencies. Improvements are required where the benefit-cost ratio of the improvement is less than one (1) as determined by the following formula, the value of total accident costs will be furnished by the County:

$$\frac{Benefit}{Cost}\,Ratio = \frac{(Annual\ Benefits) * (Series\ Present\ Worth\ Factor) * (20\ years\ @\ 10\%)}{Estimated\ Improvement\ Costs}$$

$$Annual\ Benefits = \frac{Total\ Accident\ Cost}{3}$$

B.2. Predicted Hazard Locations when shown to be warranted by the Traffic Safety Report:

The level and cost of improvements are specified in Section C, Criteria.

C. Criteria for Traffic Safety Improvements

Locations will be analyzed to determine if they are hazard locations or other locations that warrant improvements. If a location is determined to be both an Existing Hazard Location and a Predicted Hazard Location, the criteria for both shall apply.

C.1 Frontage Improvements

In addition to the requirements of the CDC the following improvement criteria shall apply to the development site frontage.

C.1.1 Existing Hazard Improvements

Where a proposed development has frontage on or adjacent to an Existing Hazard Location(s), the Traffic Safety Report shall identify improvements necessary to mitigate the hazard in addition to the frontage requirement identified in the CDC. The applicant shall be responsible for completing the identified safety improvements.

C.1.2 Predicted Hazard Improvements when warranted

Where the Traffic Safety Report identifies a Predicted Hazard Location (regardless as to whether there is a 10 percent (10%) impact on the frontage road or primary route(s), and regardless of whether the development is situated at a Predicted or Existing Hazard Location) caused by the proposed development, the applicant shall be responsible for mitigating the hazard according to the following criteria:

1. Frontage road access points that meet the signal warrants specified in the current edition of the "*Manual on Uniform Traffic Control Devices*" (MUTCD),[1] U.S. Department of Transportation Federal Highway Administration (FHWA), will be signalized. However, warrant three (3)[3] by itself does not meet Washington County requirements for installation of a traffic signal.

   If a traffic signal is warranted, the Traffic Safety Report shall recommend the type of traffic signal control, signal phasing and traffic signal system control. If turn lanes for right or left turns are required, recommendations will include the amount of storage needed. If there are existing adjacent signals along the corridor, the Traffic Safety Report shall include an assessment of potential impacts on signal operations from the installation of the new signal. The signal operations analysis shall include impacts from queueing and on vehicle progression. Contact the Traffic Engineering Section for more details.

   Improvements identified in the Traffic Safety Report will provide for traffic operations consistent with the Washington County Motor Vehicle Performance Measures identified in the Transportation System Plan. Improvements are subject to approval by the County Engineer. Design Year Traffic will be considered in measuring Level of Service.

2. Left Turn Refuge Lanes will be installed on frontage road access points and primary route(s) when warranted by the current edition of "*A Policy on Geometric Design of the Highways and Streets,*" American Association of State Highway and Transportation Officials (AASHTO).[1]

C.2. Primary Route(s) Improvements

In addition to the frontage requirements (C.1), the following improvements are required:

1. Access locations and intersections that serve as the primary route(s) for traffic to and/or from the development site shall be adequately illuminated with street lighting in accordance with Washington County Roadway Illumination Standards.[1]

2. Access locations and intersections that serve as the primary route(s) for traffic to and/or from the development site that are hazardous due to inadequate sight distance shall be improved to meet or exceed the county standard.[1]

C.3. Motor Vehicle Safety Area Improvements

In addition to the requirements for frontage improvements (C.1) and primary route(s) requirements (C.2), the following Motor Vehicle Safety Area improvement criteria shall apply. The applicant shall be responsible for completing the identified off-site improvements when:

a. The Site-Generated Cumulative Traffic exceeds 10 percent (10%) of the existing average daily traffic or 10 percent (10%) of the peak hour traffic; and
b. The result of the formula in Section B.1 identifies a value less than one (1).

C.3.1 Existing Hazard Location Improvements

1. Frontage road access points that meet the signal warrants specified in the current edition of the "*Manual on Uniform Traffic Control Devices*" (MUTCD),[1] U.S. Department of Transportation Federal Highway Administration (FHWA), will be signalized. However, warrant three (3)[3] by itself does not meet Washington County requirements for installation of a traffic signal.

   If a traffic signal is warranted, the Traffic Safety Report shall recommend the type of traffic signal control, signal phasing and traffic signal system control. If turn lanes for right or left turns are required, recommendations will include the amount of storage needed. If there are existing adjacent signals along the corridor, the Traffic Safety Report shall include an assessment of potential impacts on signal operations from the installation of the new signal. The signal operations analysis shall include impacts from queueing and on vehicle progression. Contact the Traffic Engineering Section for more details.

Improvements identified in the Traffic Safety Report will provide for traffic operations consistent with the Washington County Motor Vehicle Performance Measures identified in the Transportation System Plan. Improvements are subject to approval by the County Engineer. Design Year Traffic will be considered in measuring Level of Service.

2. Signalized intersections that are identified as an Existing Hazard Location will require improvements when the result of the formula in Section B.1 identifies a value less than one (1).

3. Unsignalized intersections that do not meet signal warrants considering Design Year Traffic but are an Existing Hazard Location will require improvements when the result of the formula in Section B.1 identifies a value less than one (1).

4. Improvements may be required within the Motor Vehicle Safety Area where current volumes warrant the improvement and where Site-Generated Cumulative Traffic will exacerbate the existing hazard.

C.3.2 Predicted Hazard Location Improvements

1. Unsignalized intersections that meet the signal warrants specified in the "*Manual on Uniform Traffic Control Devices*" (MUTCD),[1] U.S. Department of Transportation Federal Highway Administration (FHWA), will be signalized. However, warrant three (3)[3] by itself does not meet Washington County requirements for installation of a traffic signal.

   If a traffic signal is warranted, the Traffic Safety Report shall recommend the type of traffic signal control, signal phasing and traffic signal system control. If turn lanes for right or left turns are required, recommendations will include the amount of storage needed. If there are existing adjacent signals along the corridor, the Traffic Safety Report shall include an assessment of potential impacts on signal operations from the installation of the new signal. The signal operations analysis shall include impacts from queueing and on vehicle progression. Contact the Traffic Engineering Section for more details.

   Improvements identified in the Traffic Safety Report will provide for traffic operations consistent with the Washington County Motor Vehicle Performance Measures identified in the Transportation System Plan. Improvements are subject to approval by the County Engineer. Design Year Traffic will be considered in measuring Level of Service.

2. Left turn refuge lanes at intersections within the safety area will be required if the improvement is warranted considering Design Year Traffic.

C.4 Bicycle Safety Area and Pedestrian Safety Area Improvements

In addition to the requirements for Motor Vehicle Safety Area Improvements, the following Bicycle Safety Area and Pedestrian Safety Area improvement criteria shall apply:

1. The absence of a pedestrian facility on an Arterial or Collector in the urban area may be considered a safety hazard. Improvements may be required within the Pedestrian Safety Area where Site-Generated Cumulative Traffic will exacerbate the hazard.

   Off-site sidewalks may be required within the Pedestrian Safety Area. Off-site interim pedestrian improvements may be substituted for sidewalks in locations where right-of-way or other constraints do not allow for provision of the ultimate plan designation facility. Specific pedestrian improvements shall be approved by the County Engineer.

2. The absence of a bicycle facility on an Arterial or Collector in the urban area may be considered a safety hazard. The absence of an adequate shared bicycle way (or improved shoulder) in the rural area may be considered a safety hazard. Improvements may be required within the Bicycle Safety Area where site-generated cumulative motor vehicle traffic will exacerbate the hazard.

   Off-site dedicated bicycle facilities may be required within the Bicycle Safety Area. Off-site interim bicycle improvements may be substituted for dedicated bicycle facilities in locations where right-of-way or other constrains do not allow for the provision of the ultimate plan designation facility. Specific bicycle facility improvements shall be approved by the County Engineer.

3. The absence of adequate pedestrian and/or bicycle crossings of Arterial or Collector roadways in the urban area may be considered an existing safety hazard. The provision of enhanced or marked crossings may be required within the Pedestrian Safety Area or Bicycle Safety Area where site-generated cumulative motor vehicle traffic will exacerbate the hazard. Specific improvements shall be approved by the County Engineer.

D. Traffic Safety Report Format

The Traffic Safety Report shall include:

1. A description of the proposed development, intended use, ITE use code and complete documentation of Site-Generated Cumulative Traffic and trip generation calculations.
2. Motor vehicle traffic flow diagrams displaying traffic distribution, traffic assignment, Current Traffic, off-site traffic growth, existing traffic speed and Design Year Traffic.
3. Identification of Existing and/or Predicted Hazard Locations and the additional traffic generated by the development traversing each hazard location.
4. Identification of potential multimodal improvements at each hazard location.
5. Calculation of the Benefit / Cost ratio for the improvements at each hazard location.
6. Technical appendices and other material necessary to convey a complete understanding to staff of the technical adequacy of the report.

CHAPTER 3

MOTOR VEHICLE CAPACITY AND NON-MOTORIZED CONNECTIVITY REPORT REQUIREMENTS

This chapter contains the criteria for the Motor Vehicle Capacity Report and Non-Motorized Connectivity Report. This report is the responsibility of the applicant. The requirements included in this chapter are interrelated with the criteria for a Traffic Safety Report and associated internal procedures.

A Motor Vehicle Capacity Report and Non-Motorized Connectivity Report is required when the development has a specific increase in Site-Generated Cumulative traffic, as defined within this Resolution and Order. The Motor Vehicle Capacity Report and Non-Motorized Connectivity Report shall analyze multimodal capacity and connectivity within the impact area. The Motor Vehicle Capacity Report and Non-Motorized Connectivity Report shall be prepared and certified by a Professional Engineer (PE) qualified in Traffic Engineering, registered in the State of Oregon.

1. REQUIREMENTS FOR MOTOR VEHICLE CAPACITY REPORTS

A traffic analysis, to be titled "Motor Vehicle Capacity Report," is required prior to acceptance of a development application as complete. The objective of the Motor Vehicle Capacity Report is to analyze and evaluate motor vehicle capacity and operation, considering the movement of Site-Generated Cumulative Traffic in relation to the existing conditions, current traffic, access points, and intersections within the impact area. The Motor Vehicle Capacity Report shall identify methods of mitigating identified deficiencies and provide recommendations for improvements.

Motor Vehicle Trip Generation

Estimates of Site-Generated Cumulative Traffic must be made for peak periods, for design purposes, as opposed to estimates of Average Weekday Traffic. Selection of the peak periods used in the analysis will be approved by the County Engineer but will include, as a minimum, AM and PM peak periods. Site-generated cumulative traffic estimates will be based on the most recent edition of the ITE Trip Generation. Where trip generation rates are not available in the ITE report, or justification can be made for the use of different rates, approval of the rate(s) must be obtained from the County Engineer prior to use.

Traffic Assignment and Distribution

Site-Generated Cumulative Traffic from the development site will be assigned at the point(s) where the traffic accesses the county road system. Distribution of traffic shall consider the proposed use, and be based on the best available information, including the Washington County travel forecast information, existing traffic patterns, and other ITE recommended practices. Assignment and distribution assumptions are both subject to approval by the County Engineer.

Traffic Volumes to be used in Analysis

All roads fronting the development site, including the primary route(s) to access point(s) will be analyzed and evaluated considering the Site-Generated Cumulative Traffic and Design Year Traffic.

Access Considerations

Left turn refuge lanes will be required if warranted. Deceleration lanes and channelization will be considered, evaluated and recommended when determined necessary by accepted standards and practices.

Motor Vehicle Standards Capacity Assessment

The Motor Vehicle Capacity Report is required to analyze and evaluate the performance of the motor vehicle system, considering the movement of site-generated cumulative motor vehicle traffic in relation to the existing conditions, Current Traffic, access points, and intersections within the impact area. The Motor Vehicle Capacity Report shall identify methods of mitigating identified deficiencies.

The Motor Vehicle Capacity Report shall document the operation of the motor vehicle system compared to the Washington County motor vehicle performance measures adopted in the Transportation System Plan and repeated on Table 1 below.

Table 1:
Washington County Motor Vehicle Performance Measures

MAXIMUM VOLUME TO CAPACITY (V/C) RATIO STANDARDS				
Location[2]	**AM/PM Peak Two-hour Period**			
	Target[1] Performance Measures[3]		**Acceptable[1] Performance Measures[3]**	
	First Hour[4]	Second Hour[4]	First Hour[4]	Second Hour[4]
Regional Centers Town Centers Main Streets Station Communities	.99 (E)	.9 (D)	.99 (E)	.99 (E)
Other Urban Areas	.9 (D)	.9 (D)	.99 (E)	.9 (D)
Rural Areas	.9 (D)	.9 (D)	.9 (D)	.9 (D)

[1] For development review purposes, these performance standards will be used in assessing safety and/or capacity improvements.
[2] For location reference see 2040 Growth Concept Design Types Map.
[3] Vehicle performance shall be determined by using volume to capacity ratios. Volume to Capacity equivalencies to Level of Service (LOS) are as follows: LOS C = V/C of 0.8 or lower; LOS D = V/C of 0.81 to 0.9; LOS E = V/C of 0.91 to 0.99.
[4] First Hour is defined as the highest hour of the day. Second hour is defined as the hour following the first hour.

Motor Vehicle Capacity Improvements

Capacity deficiencies identified by the motor vehicle capacity report may be considered as potential hazard locations and evaluated consistent with the safety report requirements described in Chapter 2.

Off-site improvements intended solely to address motor vehicle capacity deficiencies are to be considered voluntary. However, motor vehicle improvements that address capacity deficiencies will be included as requirements when necessary for safety. Motor vehicle capacity improvements may be eligible for Transportation Development Tax credit if all the criteria for such credit are met as determined by Washington County Code 3.17.

2. REQUIREMENTS FOR NON-MOTORIZED CONNECTIVITY REPORTS

The objective of the Non-Motorized Connectivity Report is to analyze and evaluate pedestrian and bicycle travel within their impact areas. The Non-Motorized Connectivity Report shall identify deficiencies and provide recommendations for improvements within the bicycle and pedestrian impact areas.

Non-motorized trip distribution

Within the bicycle and pedestrian impact areas, the analysis shall consider the route(s) to Key Destinations and identify any gaps, road crossings, and/or other factors detrimental to non-motorized connectivity. The route(s) and Key Destinations for analysis are both subject to approval by the County Engineer. (Note: trip generation is not required)

Connectivity

Multimodal connectivity and circulation shall be considered as provided for in the CDC. The report must demonstrate how pedestrians and bicyclists will travel in a reasonably direct route between the development site and the Key Destinations within in both the pedestrian and bicycle impact areas. The assessment shall:

- Identify the presence or absence of dedicated pedestrian and bicycle facilities available to provide reasonably direct connections,
- Identify existing and potential crossing locations of Arterials, Collectors, and/or other streets with higher traffic volumes within the impact area; and,
- Identify the presence or absence of ADA facilities consistent with the County Road Standards.

Non-Motorized Capacity

The Non-Motorized connectivity report shall provide a review of the presence and adequacy of the Non-Motorized transportation system within the bicycle and pedestrian impact areas. This review shall document the capacity and comfort of these systems.

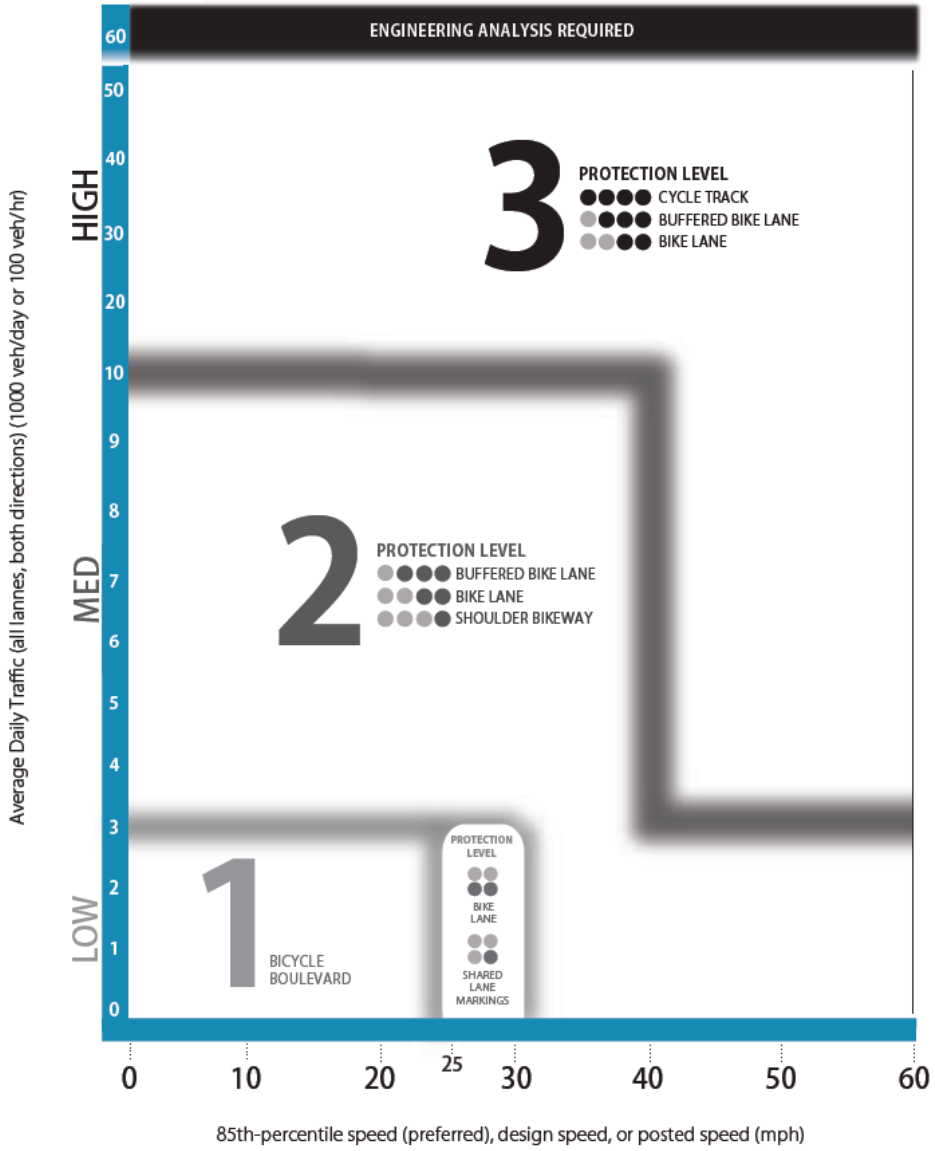
The existing system shall be assessed based on current road design and construction standards. Locations not meeting the current road design and construction standards are to be identified and the difference between the existing system and the standards shall be described. Improvements intended solely to bring an existing off-site non-motorized facility from as built to compliant with current road design and construction standards shall be prioritized after:

- Off-site connectivity improvements that reduce or eliminate gaps in the network.
- Off-site deficiencies in ADA compliant facilities.

Improvements to the non-motorized system(s) must consider the appropriate level of treatment and separation between motor vehicles and non-motorized modes based on the motor vehicle traffic volume and speed. There is an impact on pedestrian and bicycle comfort when motor vehicle traffic speeds are high and/or motor vehicle traffic volumes are high. The analysis is generally focused on (but not limited to) Arterials or Collectors, but all roadways where motor vehicle travel speeds are posted as 40 miles per hour or higher and/or volumes are greater than 10,000 vehicles per day shall be evaluated. The report must identify:

- The existing and predicted motor vehicle volume on the roadway.
- The measured 85th-percentile speed OR posted speed on the roadway.
- The number of motor vehicle lanes including turn lanes.

FIGURE 1



Depending on the inputs, the roadway context will fit into one of three categories: 1, 2, or 3. Separation between motorized and non-motorized modes should consider an appropriate treatment based on the category identified. Figure 1 shall be used as a guide to determine the type of non-motorized improvement preferred.

3. MITIGATION MEASURES AND STATEMENT OF PROPORTIONALITY

The Motor Vehicle Capacity Report and Non-Motorized Connectivity Report shall include a statement of the mitigation measures recommended. The reports shall summarize how the recommended mitigation measures address the identified impacts. The report shall document the rough proportionality of any recommended improvements as compared to the identified impacts. The County shall review the report for accuracy and may require further information and/or clarification before accepting the report as final.

The statement of proportionality shall be an individualized determination. The report shall document the rough proportionality of any recommended improvements as compared to the identified impacts. The proportionality assessment shall consider:

1. An estimate of the rough proportionality of the identified improvements to the estimated impact of the development or phase of development.
2. A cost-effectiveness analysis of potential solutions identified by the study, and a determination that the proposed mitigation will adequately address identified issues.
3. The estimated impact of the development or phase of development on the transportation system and how the improvements mitigate the impact(s).

4. MOTOR VEHICLE CAPACITY AND NON-MOTORIZED CONNECTIVITY REPORT FORMAT

In general, the Motor Vehicle Capacity Report and Non-Motorized Connectivity Report will devote a section to each of the topics discussed above. The County shall review the report for accuracy and may require further information and/or clarification before accepting the report as final and the related development application as complete. Documentation will include:

1. A description of the proposed development, intended use, ITE use code and complete documentation of Site-Generated Cumulative Traffic and trip generation calculations.
2. Traffic flow diagrams displaying traffic distribution, traffic assignment, Current Traffic, off-site traffic growth, existing and predicted traffic speed and Design Year Traffic.
3. Vicinity map and impact area map(s) displaying the existing conditions with road names, functional classification, freight classification (if any), active transportation classifications and including:
    - pavement and shoulder width
    - striping and channelization
    - all existing driveways and intersections within the impact area
    - presence or absence of sidewalks and bike lanes (including other non-motorized facilities)
    - landscape medians
    - compliance with Americans with Disabilities Act standards
4. A comparison between existing conditions and current road design and construction standards and/or other appropriate design standards.
5. Turning movements at access point(s) and intersections within the impact area.
6. Motor Vehicle level of service at intersections within the Motor Vehicle Impact Area.

7. Non-motorized bicycle and pedestrian system evaluation including:
    - bicycle and pedestrian distribution to Key Destinations within their impact areas
    - connectivity assessment and identification of system gaps and deficiencies
    - capacity assessment considering the appropriate type of separation between motor vehicles and non-motorized travelers
8. Mitigation Measures and Statement of Proportionality.
9. Technical appendices and other material necessary to convey a complete understanding of the technical adequacy of the report.

Notes:

[1] At the time of Development Application.
[2] Certified by a Professional Engineer (PE) qualified in Traffic Engineering, registered in the State of Oregon.
[3] Signal warrants in the Manual on Uniform Traffic Control Devices (MUTCD) (2009 edition), Warrant 3 Peak Hour.