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Transportation, Inc.

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April 14, 2010

Mr. Pat Allen
Northern Aggregate, Inc.
P.O. Box 1566
Willits, CA 95490

Harris Quarry Response to Comments

Dear Mr. Allen;

Whitlock & Weinberger Transportation, Inc. (W-Trans) completed the *Updated Supplemental Traffic Impact Analysis for the Harris Quarry* in the County of Mendocino on January 27, 2010. We have since received comments on this report from Mr. Mark Crane of Crane Transportation Group via email dated March 5, 2010. These comments are reprinted below with our responses.

Comment 1

Reference is made several times to the fact that Caltrans does not apply level of service/delay criteria to private driveway approaches to state highways. Since this statement is not in their Guide for Preparation of Traffic Impact Studies, where did it come from? Is this directly from Marc Birnbaum at Caltrans, or some staff person at District 1? Please detail.

Response: There is no clear direction from Caltrans in the *Guide for Preparation of Traffic Impact Studies* as to the level of service standards for private driveway approaches. We have routinely applied level of service criteria to movements that directly impact State facilities such as left turns from the highway. All calculations are provided within the body of the report and/or appendices if Mr. Crane chooses to report this data in the EIR. The delays and LOS results provided on Tables 13, 14, 16 and 17 in the report represent the delay on the controlled approach, which is the eastbound approach for both intersections. It should be noted that with all proposed mitigations, the controlled approaches are expected to operate acceptably at LOS C or better for all study periods.

Comment 2

Table 6 – Trip Generation Assumptions With Proposed Project shows 58,280 CY of asphalt being produced with only 10,280 CY of aggregate, or 18 percent of the total CY (the other 199,720 CY out of the total 210,000 CY mined or imported being sold as aggregate or transferred to Willits). Is this truly the proportion of aggregate in asphalt? Do Table 6 findings reflect a bulking factor which is not listed in the table?

Response: We recognize that Table 6 provided in the report did not clearly show the bulking factor. To clarify the distribution of material, a revised Table 6 will be provided in the errata.

Comment 3

Table 7 – Trip Generation Assumptions (200,000 CY mined) results do not match with Appendix C, page 2 calculations (258,000 CY versus 268,000 CY). Also, the Appendix C page 1 calculations at the bottom of the

page fail to account for the recycled material. Does this impact your calculations re number of trucks for the different analysis scenarios?

Response: Total truck trips shown in Table 7 do match calculations presented in Appendix C. The reference is to 200,000 CY mined, not the total amount transported, which is 258,000 cubic yards when the bulking factor and recycled material imported are added.

The calculation in Appendix C at the bottom of page 1 is a typographical error; it should read 258,000 cubic yards per year. The 258,000 cubic yards per year was used for all subsequent calculations. An erratum showing the corrected equation will be provided.

Comment 4

Passenger Car Equivalents (page 18). The statement is made that PCEs were only applied to truck turns to/from the quarry. May we assume that a truck percentage was included for the through traffic on US 101? Please confirm.

Response: The analysis software's default setting for heavy vehicles was utilized for all background traffic. Additionally, the PCE factor was applied to all Quarry generated truck trips, including through movements at US 101/Black Bart Drive.

Comment 5

Caltrans Criteria: Have Caltrans District 1 staff agreed to the findings/direction from Marc Birnbaum?

Response: This standard has been successfully applied to projects in various Caltrans districts. As noted in Response to Comment 1, data for all approaches has been provided and the controlled approach is expected to operate acceptably during all study periods with the implementation of all recommended mitigation measures.

Comment 6

Acceleration Lane Warrants. Please detail the methodology for determining the need for the acceleration lanes to accommodate right and left turns from the quarry access. Please supply the worksheets.

Response: Acceleration lane warrants were inadvertently excluded from Appendix G. These warrants are attached to this letter and include methodology references. An erratum will be provided which will include this data.

Comment 7

Significance Criteria: Why were no significance criteria utilized evaluating change in delay due to project traffic at the quarry access and Black Bart Drive intersections with US 101?

Response: As noted in the Responses to Comments 1 and 5, data for all approaches has been provided and the controlled approach is expected to operate acceptably during all study periods with the implementation of all recommended mitigation measures. Overall intersection operation was considered for the intersection of US 101/Black Bart Drive since the project would not change turning movement volumes at that location.

Comment 8

Weather Impacts: Do you think limited visibility during poor weather conditions in conjunction with the projected 50+ percent increase in traffic on U.S.101 over the next 20 to 30 years will ever lead to the need for additional improvements at the quarry access intersection, such as grade separation?

Response: The California State Legislature has placed the responsibility of safe operation of a vehicle on the driver, as evident by the following sections of the California Vehicle Code:

§ 21802 (a) The driver of any vehicle approaching a stop sign at the entrance to, or within, an intersection shall stop as required by Section 22450. The driver shall then yield the right-of-way to any vehicles which have approached from another highway, or which are approaching so closely as to constitute an immediate hazard, and shall continue to yield the right-of-way to those vehicles until he or she can proceed with reasonable safety.

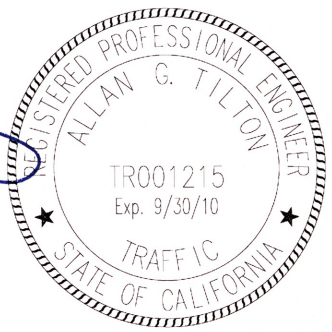
§ 22350 No person shall drive a vehicle upon a highway at a speed greater than is reasonable or prudent having due regard for weather, visibility, the traffic on, and the surface and width of, the highway, and in no event at a speed which endangers the safety of persons or property.

Since the CVC clearly places the burden of safe operation of a vehicle upon the driver, it is not appropriate to shift this responsibility to another party such as the Quarry.

Thank you for contacting W-Trans for these services. Please feel free to call have any questions.

Sincerely,

Tony Henderson, EIT
Assistant Transportation Engineer



Allan G. Tilton, P.E.
Senior Associate

AGT/tdh/MEX047.L2

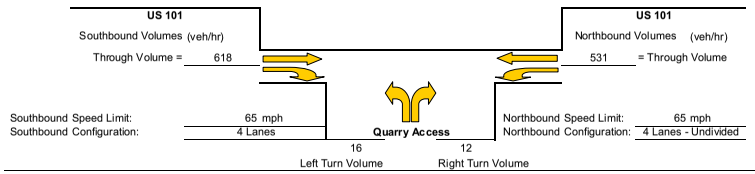
Enclosures: Acceleration Lane Warrants

Copy: Ms. Cathy McKeon, Rau and Associates

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 July Peak Base Permit Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	618
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

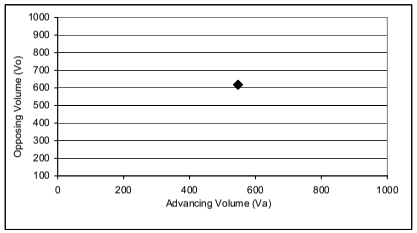
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	618
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.8 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



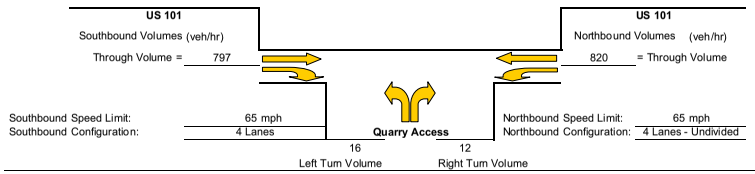
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 July Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	797
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

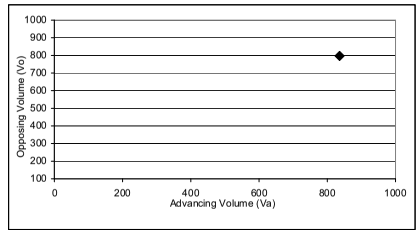
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	797
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 11.7 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



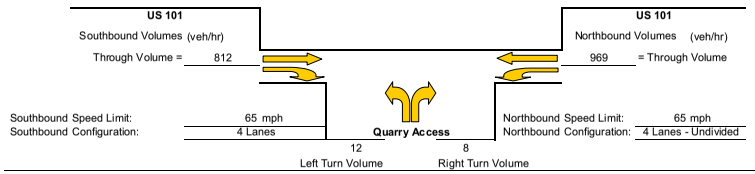
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 July Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 812
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

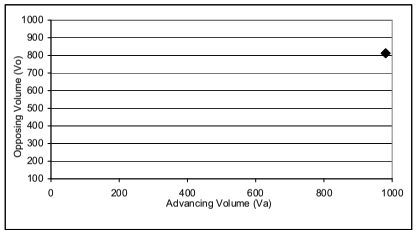
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 1066.66667
   - Advancing Volume Va = 812
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 11.5 veh/hr
Left Turn Volume Vl = 12 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

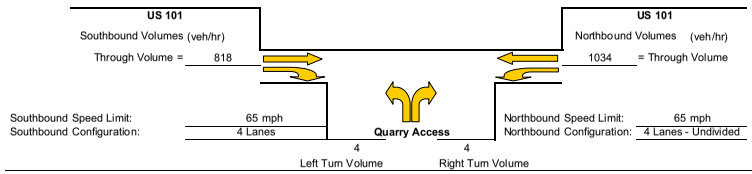
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 July Peak Base Permit Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 818
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

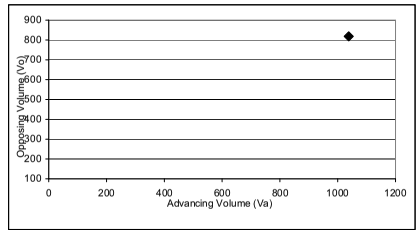
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 1200
   - Advancing Volume Va = 818
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 11.4 veh/hr
Left Turn Volume Vl = 4 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

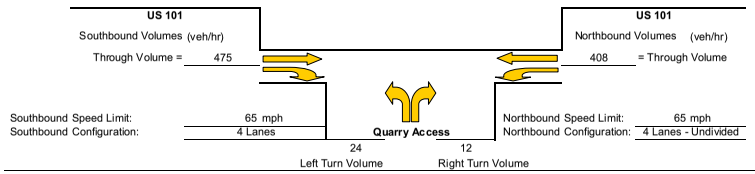
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 October Peak Base Permit Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	475
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

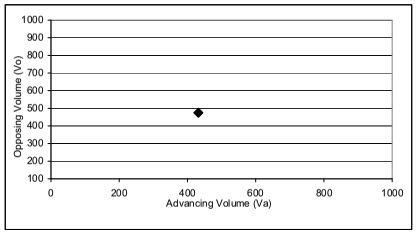
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	475
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 17.9 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



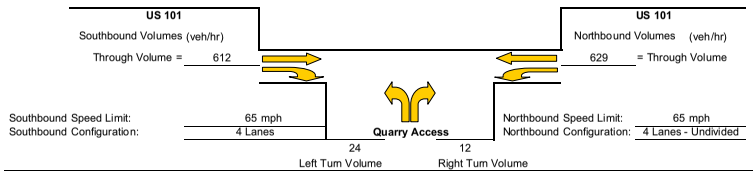
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 October Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	612
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

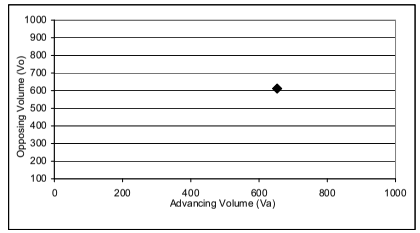
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	612
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.9 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



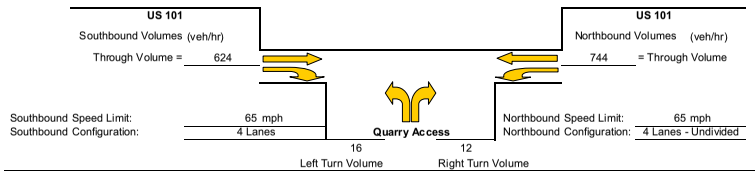
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 October Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	624
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

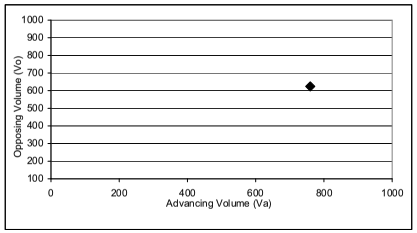
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	624
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.7 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



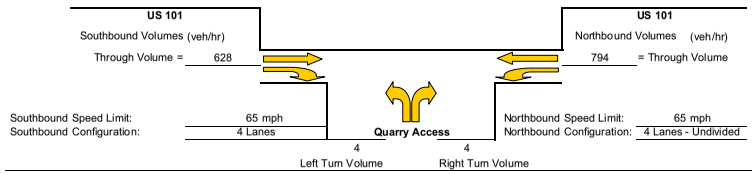
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 October Peak Base Permit Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	628
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

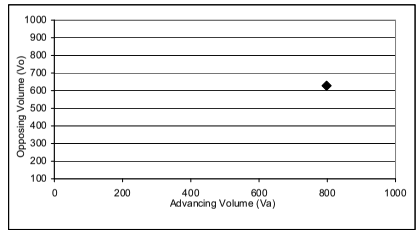
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	628
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.6 veh/hr
Left Turn Volume Vl = 4 veh/hr
If Vl>LtVol then warrant is met



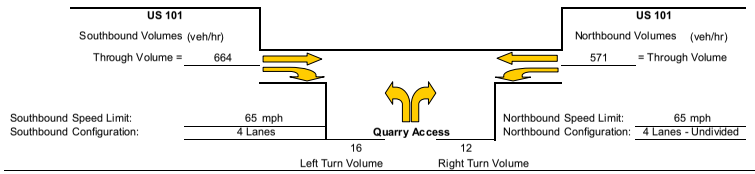
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) July Peak Base Permit Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	664
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

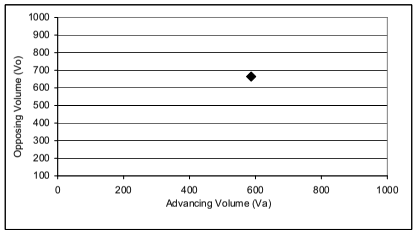
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	664
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.9 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



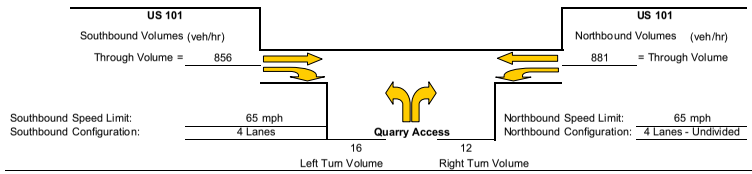
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) July Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	856
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

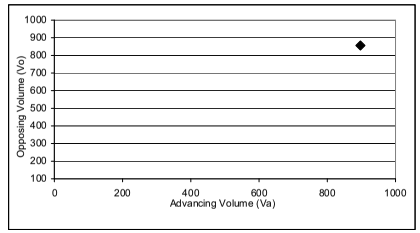
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	856
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.8 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



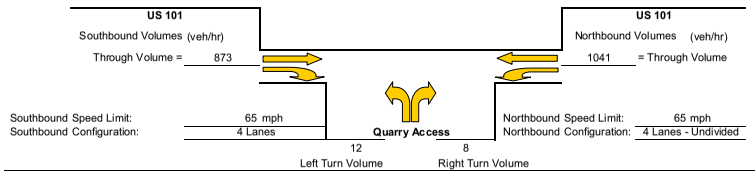
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) July Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	873
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

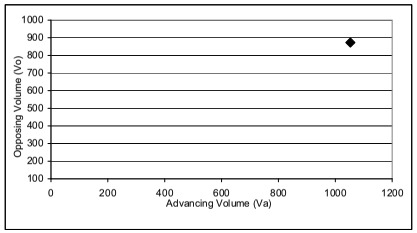
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1066.66667
Advancing Volume	Va =	873
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.6 veh/hr
Left Turn Volume Vl = 12 veh/hr
If Vl>LtVol then warrant is met



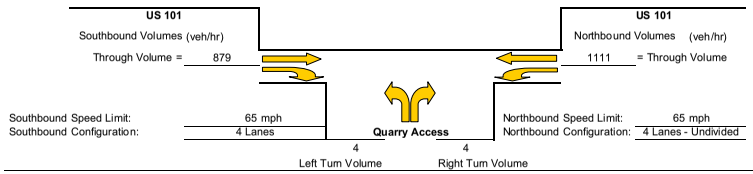
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) July Peak Base Permit Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	879
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

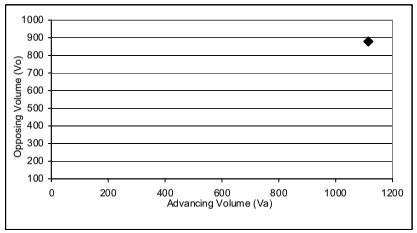
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	879
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.5 veh/hr
Left Turn Volume Vl = 4 veh/hr
If Vl>LtVol then warrant is met



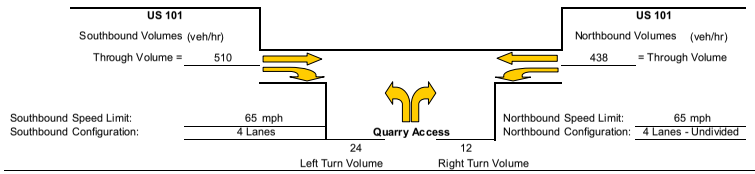
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) October Peak Base Permit Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 510
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

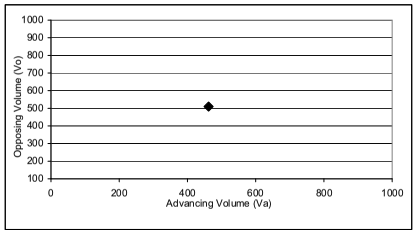
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 510
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 17.1 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

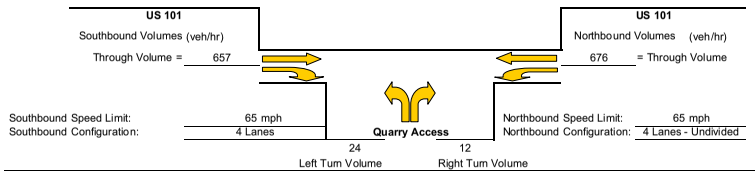
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) October Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 657
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

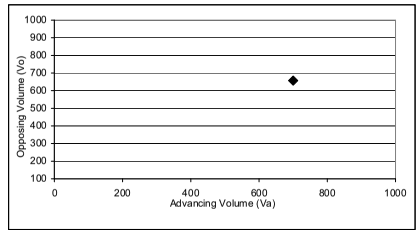
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 657
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.1 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

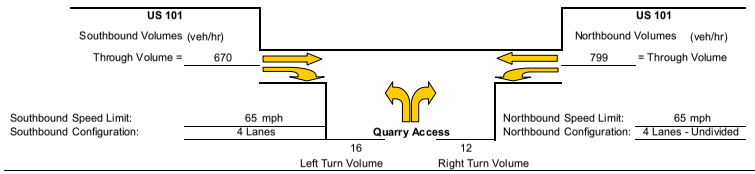
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) October Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	670
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

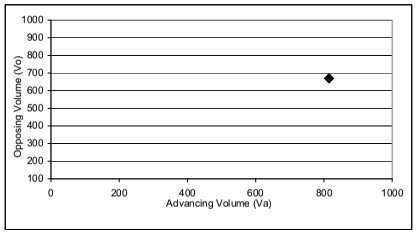
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	670
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.8 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



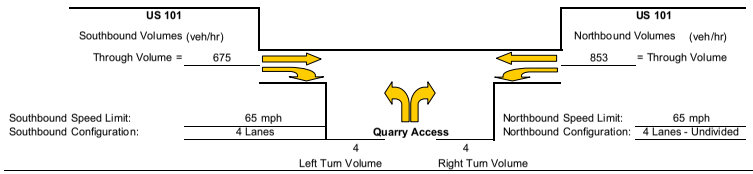
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) October Peak Base Permit Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	675
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

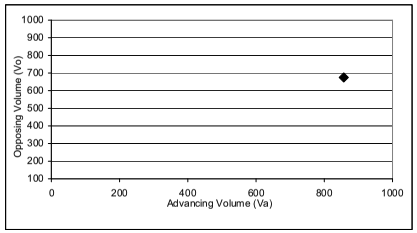
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	675
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.7 veh/hr
Left Turn Volume Vl = 4 veh/hr
If Vl>LtVol then warrant is met



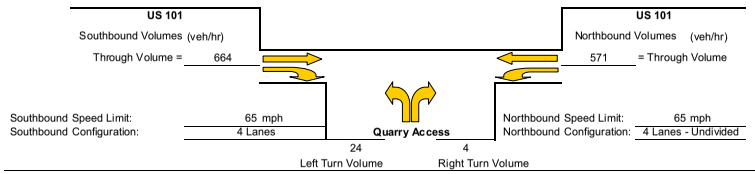
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) July Peak Base Permit Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	664
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

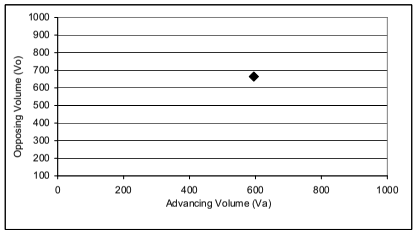
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	664
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.9 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



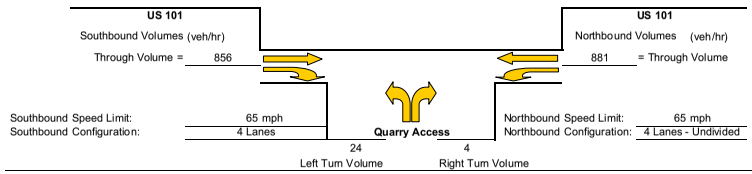
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) July Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	856
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

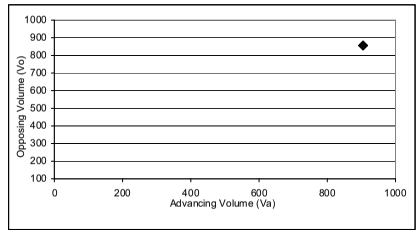
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	856
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.8 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



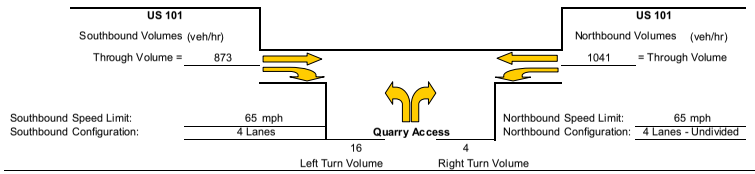
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) July Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	873
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper

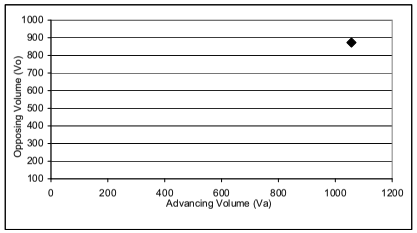
Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	873
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold	LtVol	10.6 veh/hr
Left Turn Volume	Vl =	16 veh/hr

If Vl>LtVol then warrant is met



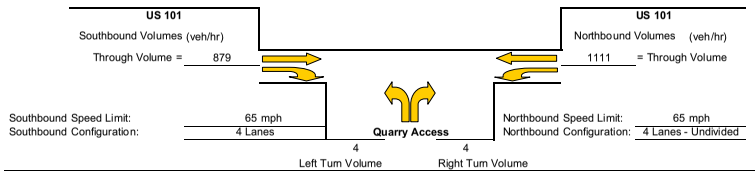
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) July Peak Base Permit Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	879
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper

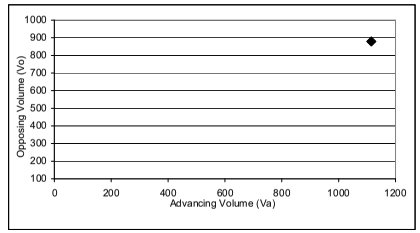
Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	879
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold	LtVol	10.5 veh/hr
Left Turn Volume	Vl =	4 veh/hr

If Vl>LtVol then warrant is met



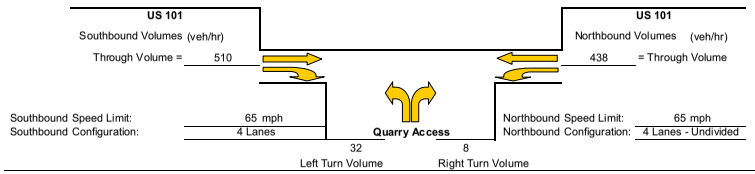
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) October Peak Base Permit Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 510
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

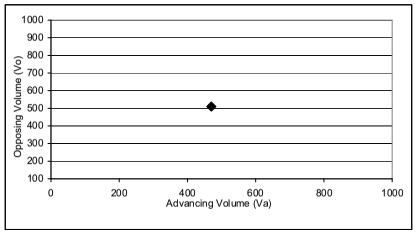
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 1066.66667
   - Advancing Volume Va = 510
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 17.1 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



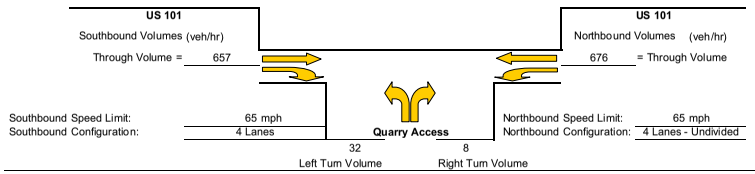
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) October Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 657
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

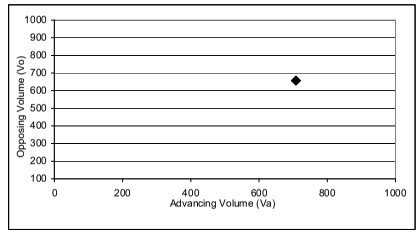
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 1066.66667
   - Advancing Volume Va = 657
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.1 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



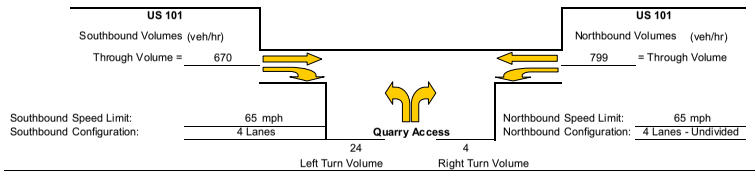
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) October Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	670
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

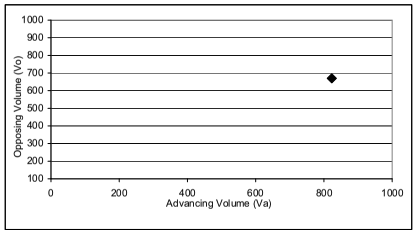
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	670
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.8 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



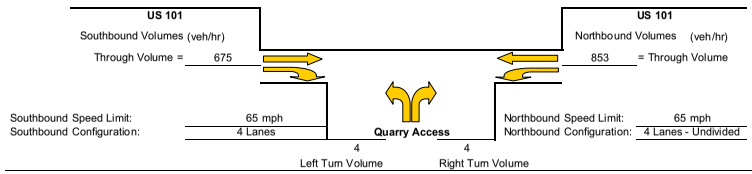
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) October Peak Base Permit Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	675
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

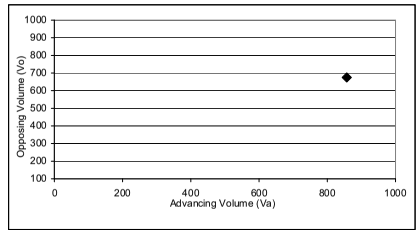
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	675
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.7 veh/hr
Left Turn Volume Vl = 4 veh/hr
If Vl>LtVol then warrant is met



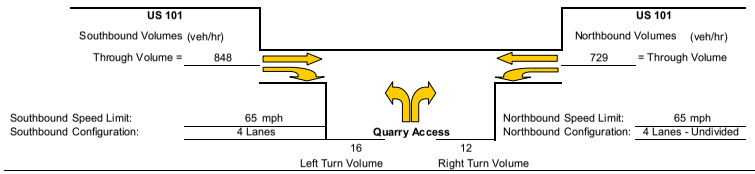
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 July Peak Base Permit Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	848
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

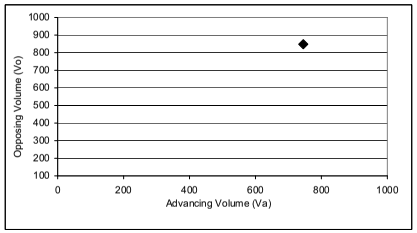
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	848
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.9 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



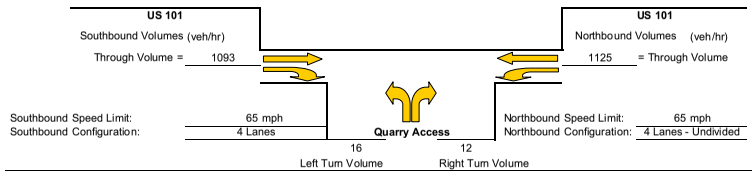
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 July Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	1093
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

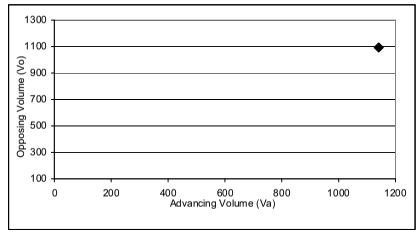
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	1093
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 7.9 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



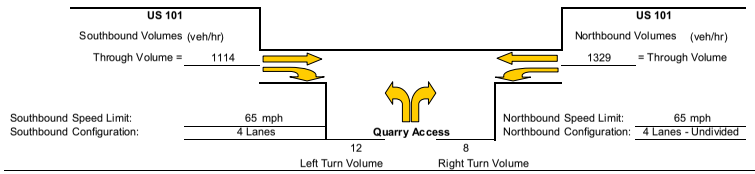
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 July Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	1114
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper

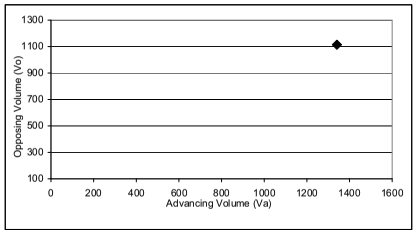
Advancing Volume Threshold	AV =	1066.66667
Advancing Volume	Va =	1114
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold	LtVol	7.7 veh/hr
Left Turn Volume	Vl =	12 veh/hr

If Vl>LtVol then warrant is met



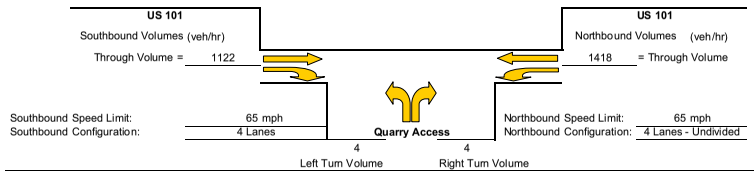
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 July Peak Base Permit Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	1122
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper

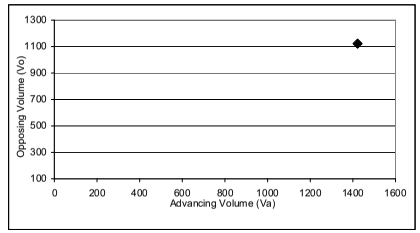
Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	1122
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold	LtVol	7.6 veh/hr
Left Turn Volume	Vl =	4 veh/hr

If Vl>LtVol then warrant is met



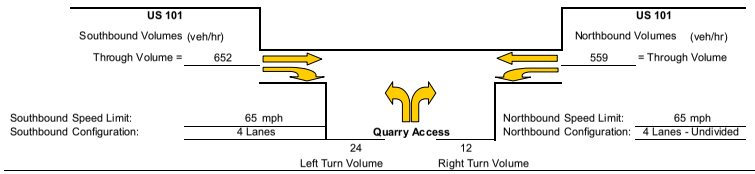
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 October Peak Base Permit Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 652
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

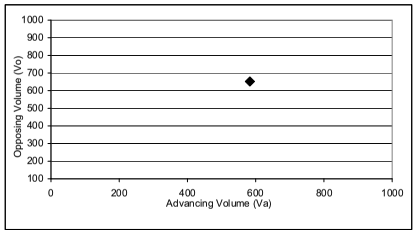
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 652
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.1 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



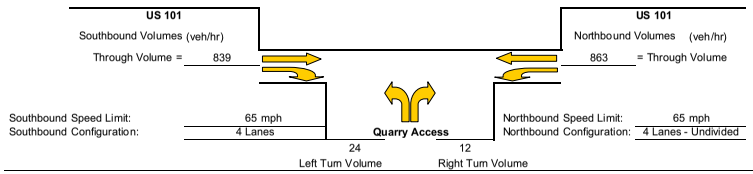
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 October Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 839
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

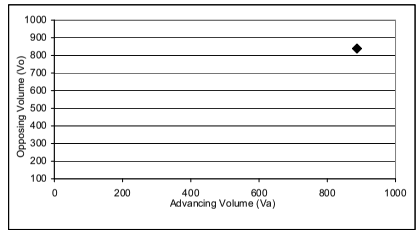
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 839
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 11.1 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



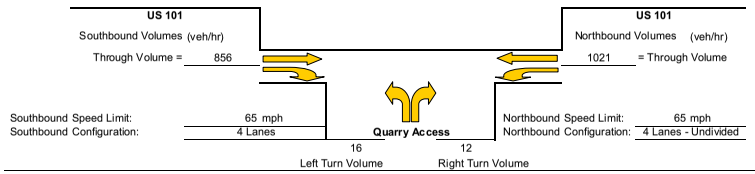
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 October Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 856
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

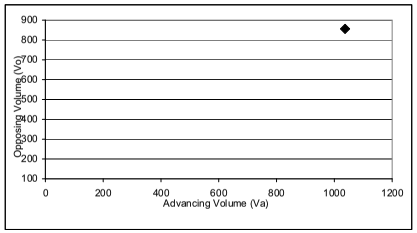
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 856
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.8 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



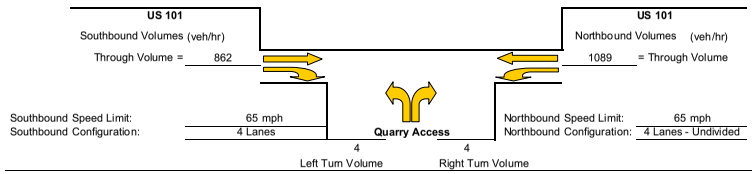
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 October Peak Base Permit Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 862
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

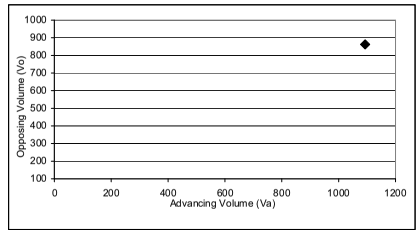
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 1200
   - Advancing Volume Va = 862
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.7 veh/hr
Left Turn Volume Vl = 4 veh/hr
If Vl>LtVol then warrant is met



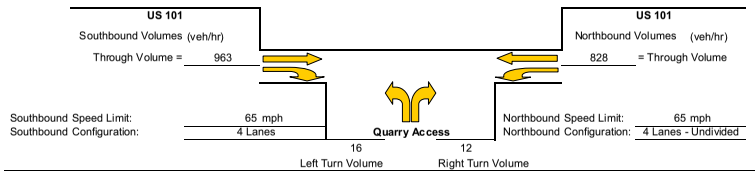
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 July Peak Base Permit Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 963
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

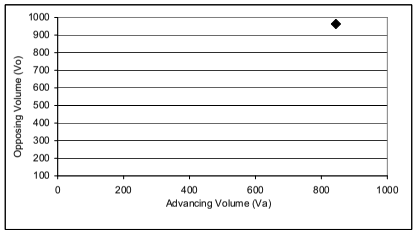
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 963
   - If AV<Va then warrant is met Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 9.4 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



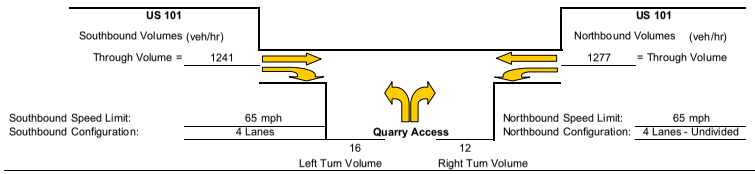
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 July Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 1241
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

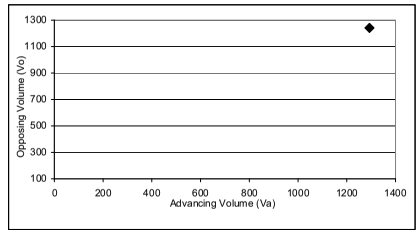
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 1241
   - If AV<Va then warrant is met Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 6.5 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



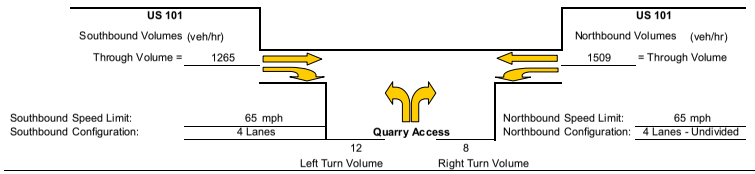
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 July Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	1265
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

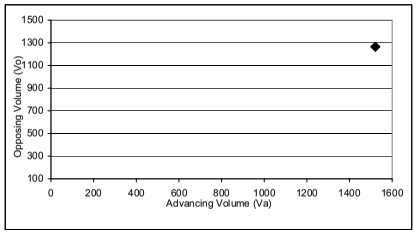
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1066.66667
Advancing Volume	Va =	1265
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 6.3 veh/hr
Left Turn Volume Vl = 12 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

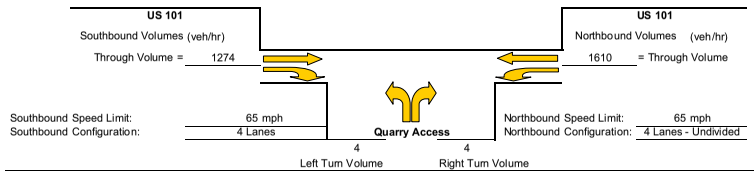
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 July Peak Base Permit Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	1274
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

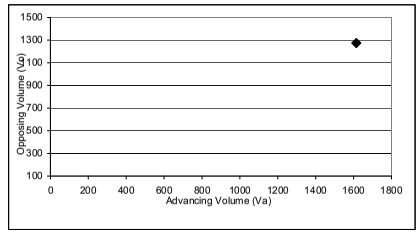
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	1274
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 6.2 veh/hr
Left Turn Volume Vl = 4 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

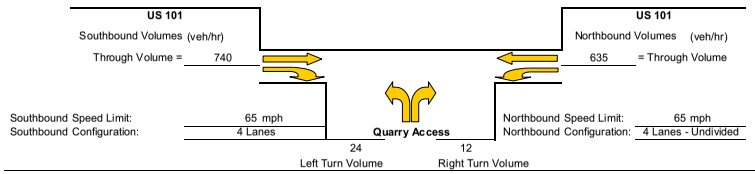
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 October Peak Base Permit Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 740
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

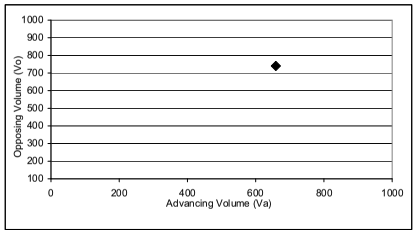
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 740
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 12.6 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

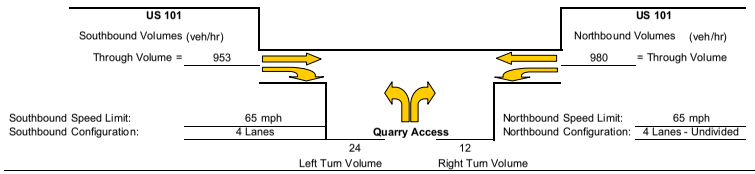
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 October Peak Base Permit Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 953
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

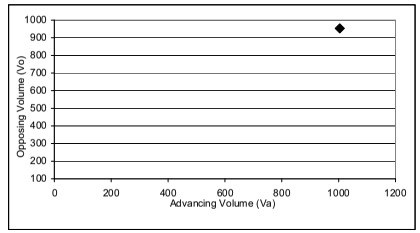
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 933.333333
   - Advancing Volume Va = 953
   - If AV<Va then warrant is met Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 9.5 veh/hr
Left Turn Volume Vl = 24 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

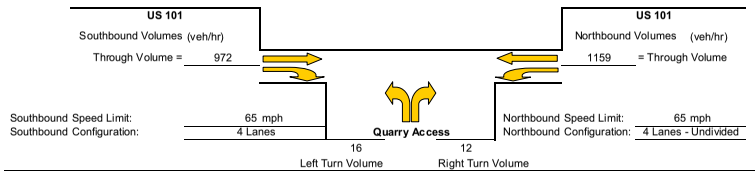
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 October Peak Base Permit Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	972
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

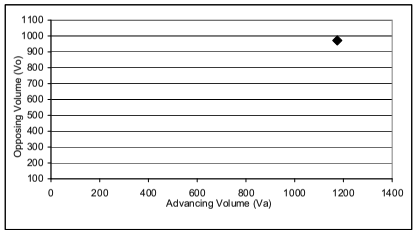
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	933.333333
Advancing Volume	Va =	972
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 9.3 veh/hr
Left Turn Volume Vl = 16 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

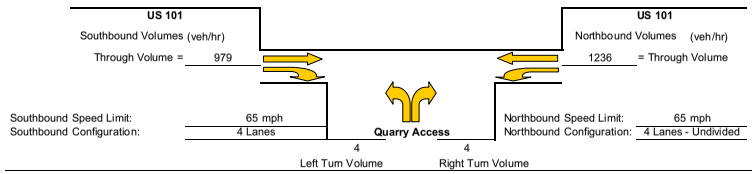
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 October Peak Base Permit Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	979
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

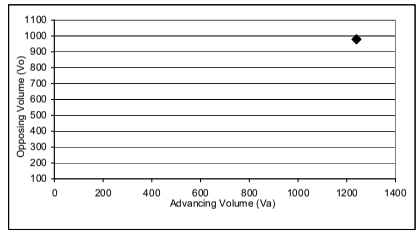
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1200
Advancing Volume	Va =	979
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 9.2 veh/hr
Left Turn Volume Vl = 4 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

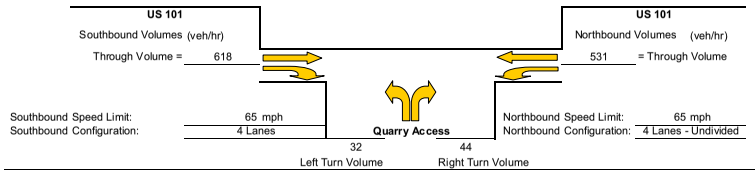
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 July Peak Project Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	618
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

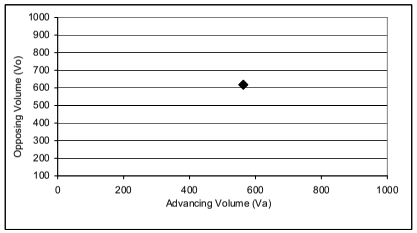
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	618
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.8 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



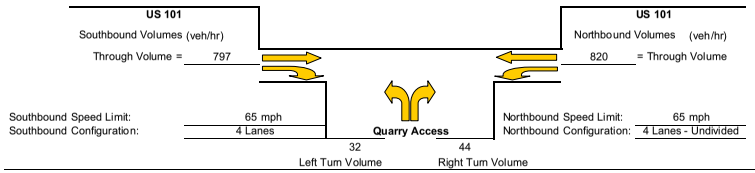
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 July Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	797
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

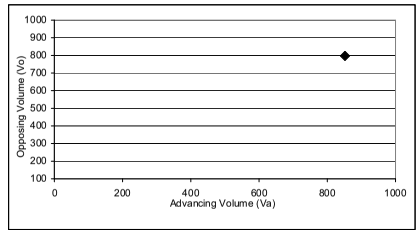
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	797
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 11.7 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



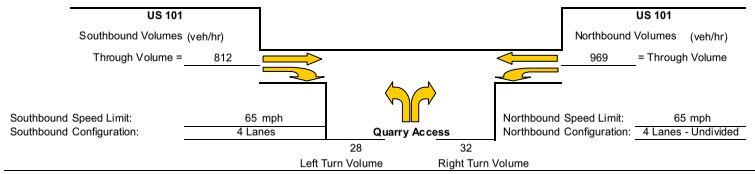
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 July Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	812
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

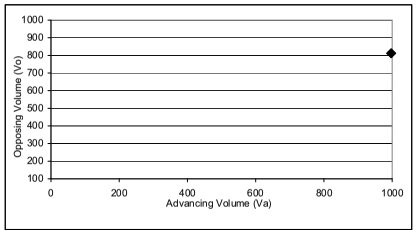
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	266.666667
Advancing Volume	Va =	812
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 11.5 veh/hr
Left Turn Volume Vl = 28 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

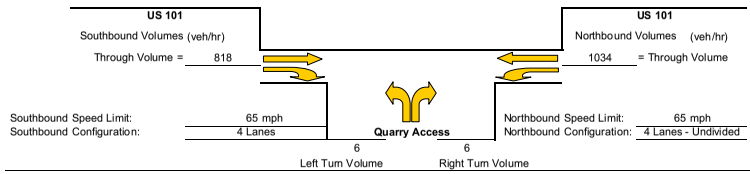
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 July Peak Project Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	818
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

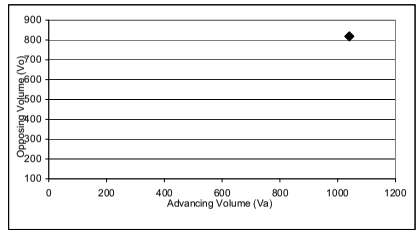
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1133.33333
Advancing Volume	Va =	818
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 11.4 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

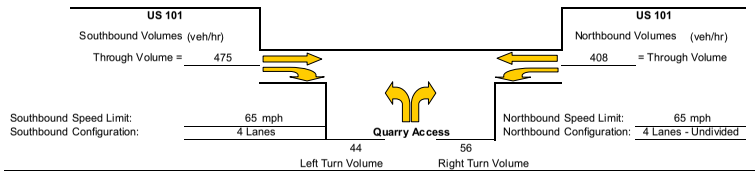
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 October Peak Project Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	975.9
Advancing Volume	Va =	475
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

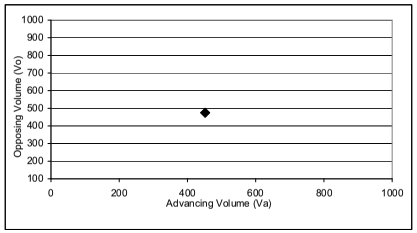
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-533.33333
Advancing Volume	Va =	475
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 17.9 veh/hr
Left Turn Volume Vl = 44 veh/hr
If Vl>LtVol then warrant is met



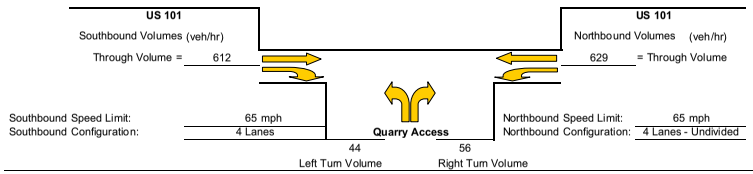
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 October Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	975.9
Advancing Volume	Va =	612
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

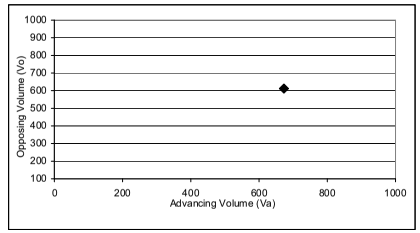
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-533.33333
Advancing Volume	Va =	612
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.9 veh/hr
Left Turn Volume Vl = 44 veh/hr
If Vl>LtVol then warrant is met



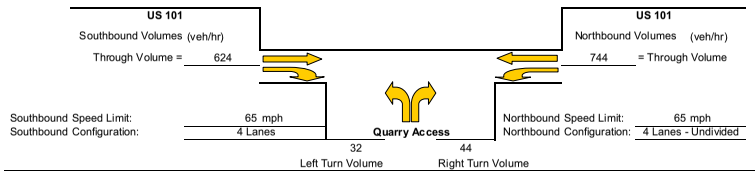
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 October Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = 1144
   - Advancing Volume Va = 624
   - If AV<Va then warrant is met No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

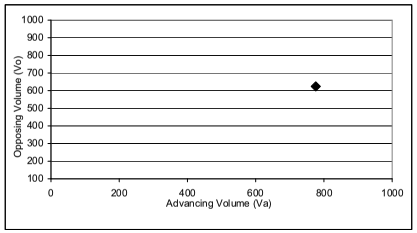
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = -133.33333
   - Advancing Volume Va = 624
   - If AV<Va then warrant is met Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.7 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



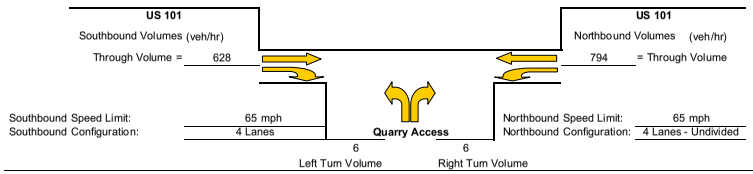
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2010 October Peak Project Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 628
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

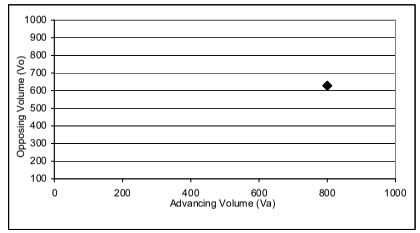
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 1133.33333
   - Advancing Volume Va = 628
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.6 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



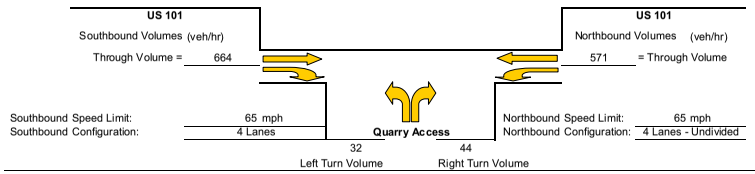
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) July Peak Project Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	664
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

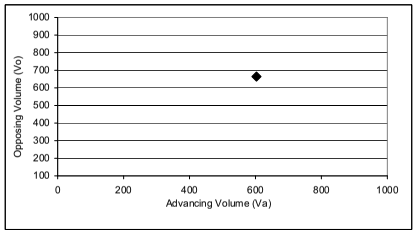
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	664
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.9 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



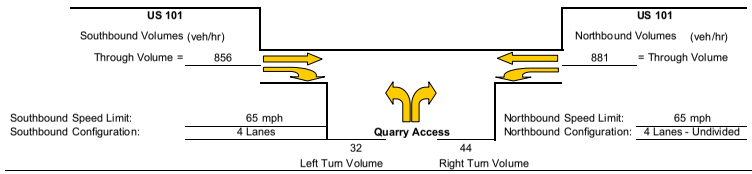
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) July Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	856
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

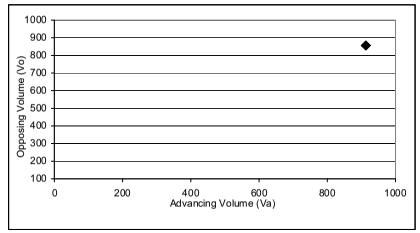
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	856
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.8 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



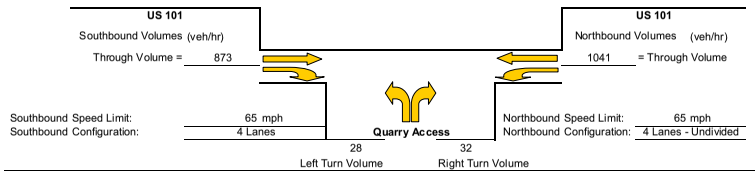
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) July Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	873
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

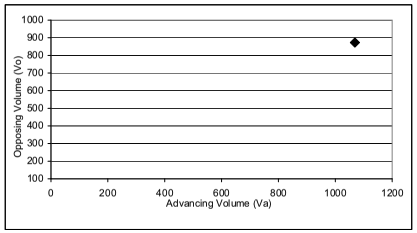
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	266.666667
Advancing Volume	Va =	873
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.6 veh/hr
Left Turn Volume Vl = 28 veh/hr
If Vl>LtVol then warrant is met



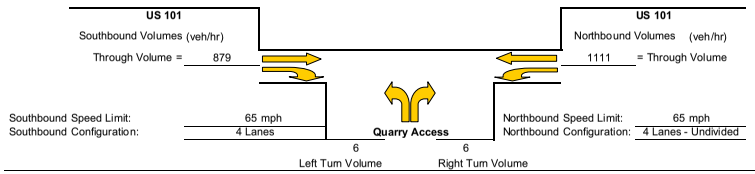
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) July Peak Project Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	879
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

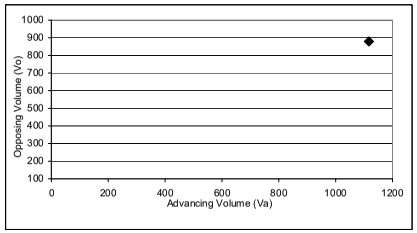
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1133.33333
Advancing Volume	Va =	879
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.5 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



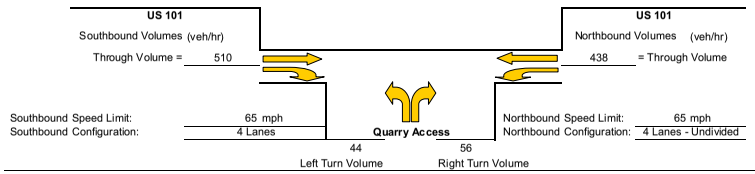
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) October Peak Project Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	975.9
Advancing Volume	Va =	510
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

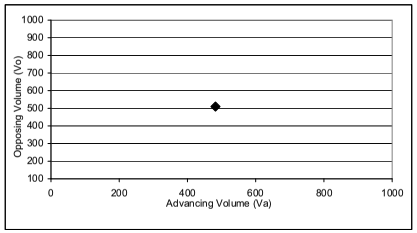
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-533.33333
Advancing Volume	Va =	510
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 17.1 veh/hr
Left Turn Volume Vl = 44 veh/hr
If Vl>LtVol then warrant is met



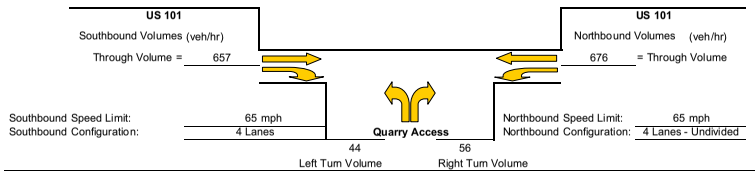
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) October Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	975.9
Advancing Volume	Va =	657
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

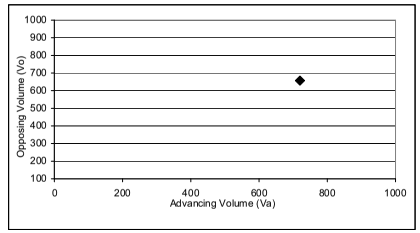
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-533.33333
Advancing Volume	Va =	657
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.1 veh/hr
Left Turn Volume Vl = 44 veh/hr
If Vl>LtVol then warrant is met



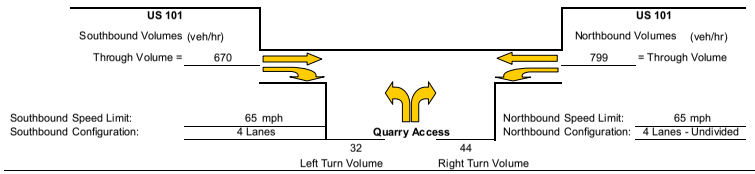
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) October Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	670
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

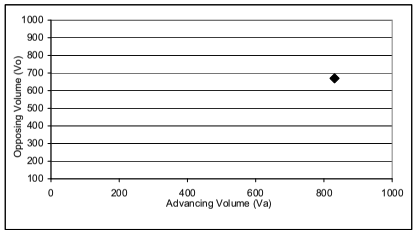
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	670
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.8 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



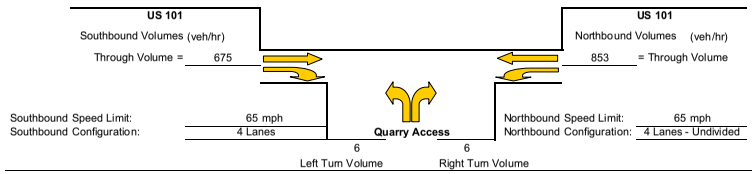
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (without Willits Bypass) October Peak Project Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	675
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

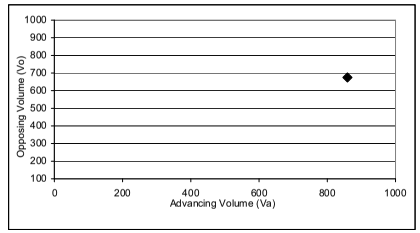
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1133.33333
Advancing Volume	Va =	675
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.7 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



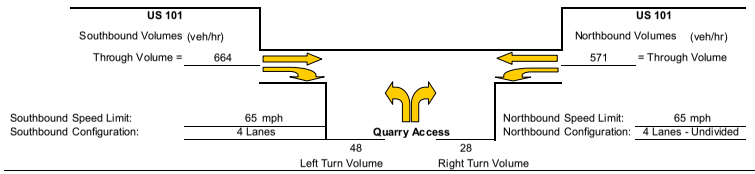
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) July Peak Project Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	664
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

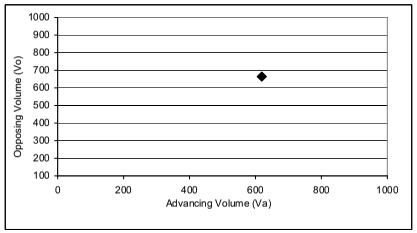
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	400
Advancing Volume	Va =	664
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.9 veh/hr
Left Turn Volume Vl = 48 veh/hr
If Vl>LtVol then warrant is met



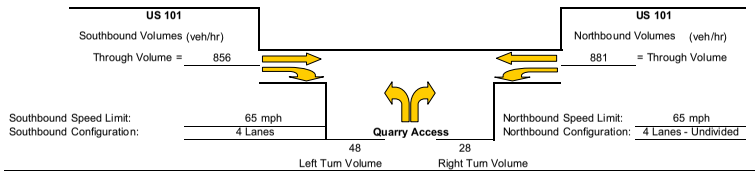
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) July Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	856
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

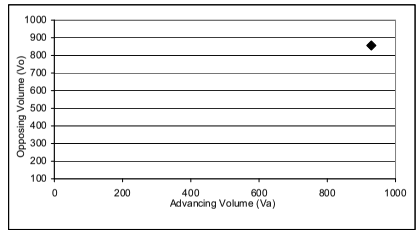
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	400
Advancing Volume	Va =	856
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.8 veh/hr
Left Turn Volume Vl = 48 veh/hr
If Vl>LtVol then warrant is met



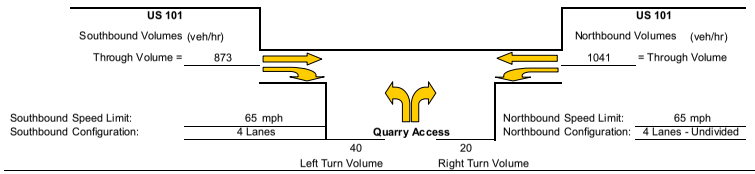
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) July Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	873
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

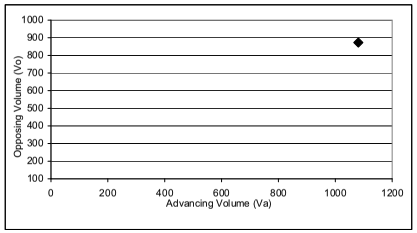
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	666.666667
Advancing Volume	Va =	873
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.6 veh/hr
Left Turn Volume Vl = 40 veh/hr
If Vl>LtVol then warrant is met



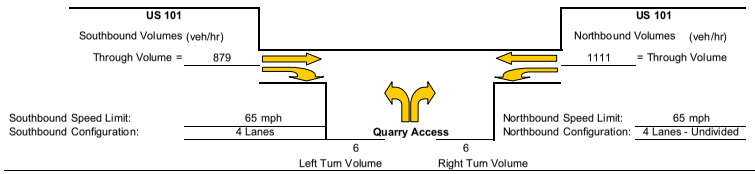
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) July Peak Project Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	879
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

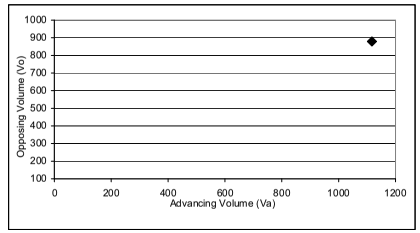
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1133.33333
Advancing Volume	Va =	879
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.5 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



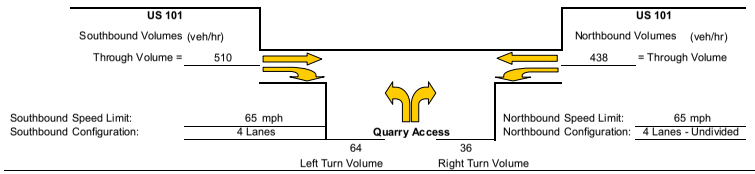
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) October Peak Project Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	510
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

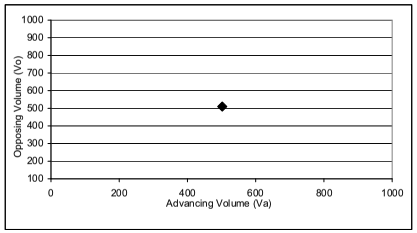
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	133.333333
Advancing Volume	Va =	510
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 17.1 veh/hr
Left Turn Volume Vl = 64 veh/hr
If Vl>LtVol then warrant is met



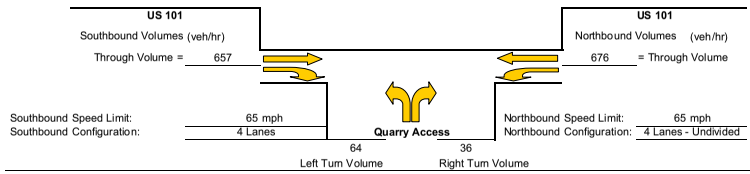
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) October Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	657
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

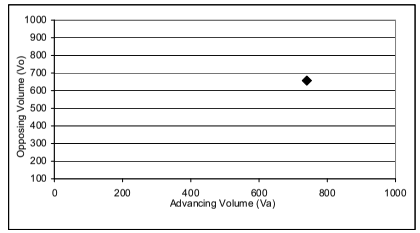
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	133.333333
Advancing Volume	Va =	657
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.1 veh/hr
Left Turn Volume Vl = 64 veh/hr
If Vl>LtVol then warrant is met



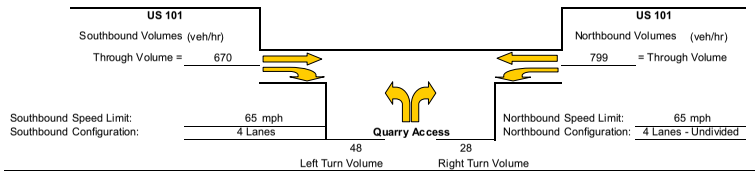
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) October Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	670
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

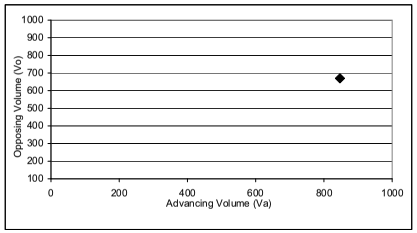
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	400
Advancing Volume	Va =	670
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.8 veh/hr
Left Turn Volume Vl = 48 veh/hr
If Vl>LtVol then warrant is met



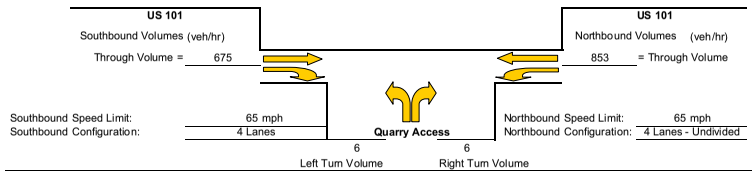
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2014 (with Willits Bypass) October Peak Project Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	675
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

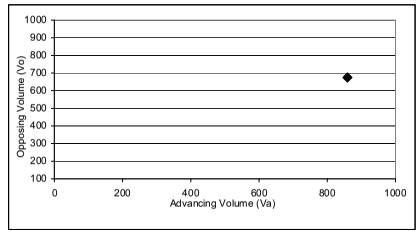
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1133.33333
Advancing Volume	Va =	675
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 13.7 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



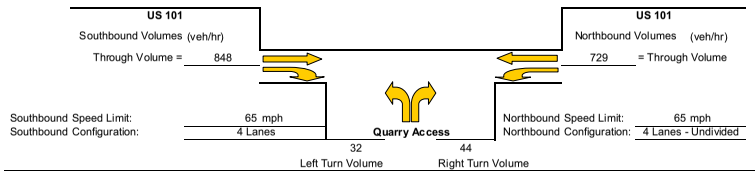
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 July Peak Project Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	848
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

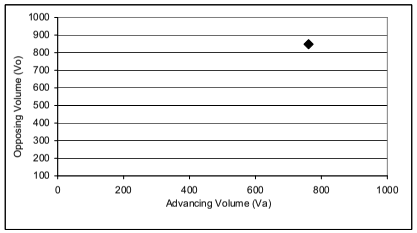
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	848
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.9 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



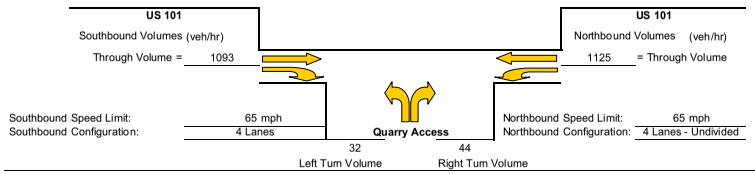
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 July Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	1093
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

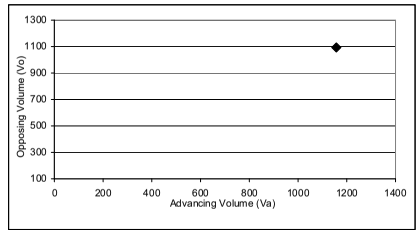
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	1093
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 7.9 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



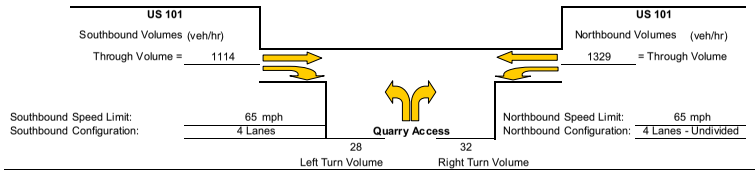
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 July Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 1114
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

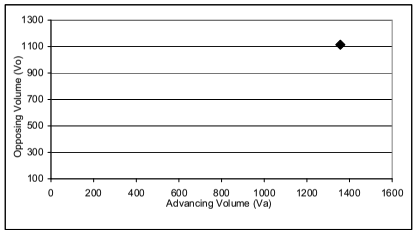
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 266.666667
   - Advancing Volume Va = 1114
   - If AV<Va then warrant is met Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 7.7 veh/hr
Left Turn Volume Vl = 28 veh/hr
If Vl>LtVol then warrant is met



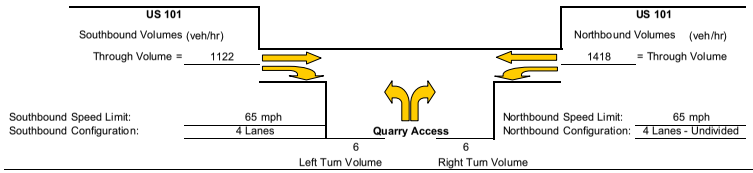
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 July Peak Project Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 1122
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

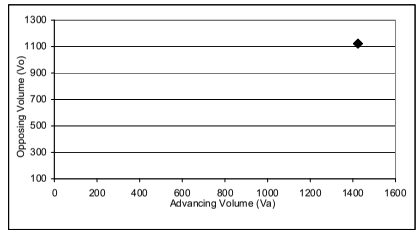
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 1133.33333
   - Advancing Volume Va = 1122
   - If AV<Va then warrant is met No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 7.6 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



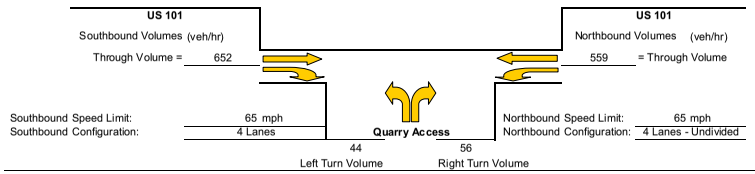
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 October Peak Project Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	975.9
Advancing Volume	Va =	652
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

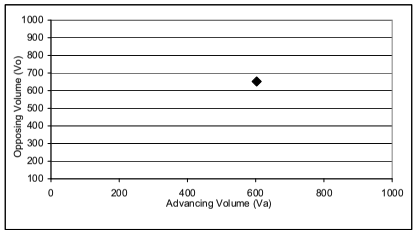
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-533.33333
Advancing Volume	Va =	652
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 14.1 veh/hr
Left Turn Volume Vl = 44 veh/hr
If Vl>LtVol then warrant is met



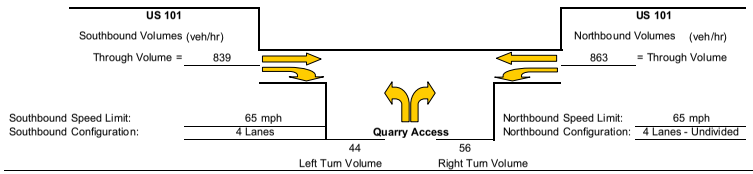
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 October Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	975.9
Advancing Volume	Va =	839
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

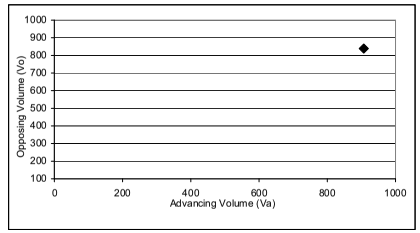
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-533.33333
Advancing Volume	Va =	839
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 11.1 veh/hr
Left Turn Volume Vl = 44 veh/hr
If Vl>LtVol then warrant is met



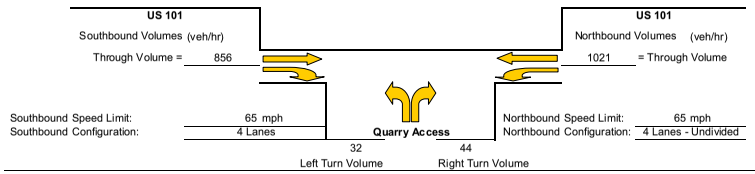
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 October Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	856
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

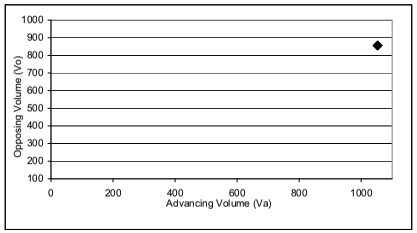
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	856
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.8 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



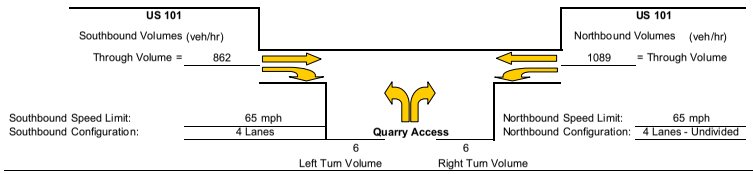
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2030 October Peak Project Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	862
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

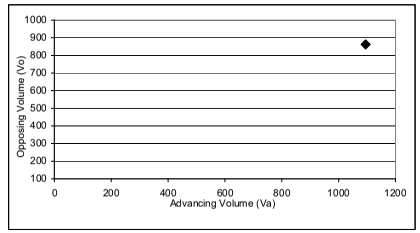
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1133.33333
Advancing Volume	Va =	862
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 10.7 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



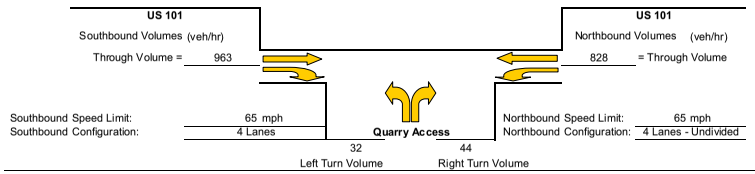
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 July Peak Project Conditions - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	963
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

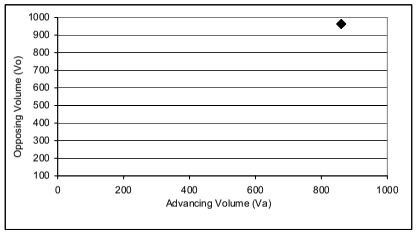
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	963
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 9.4 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

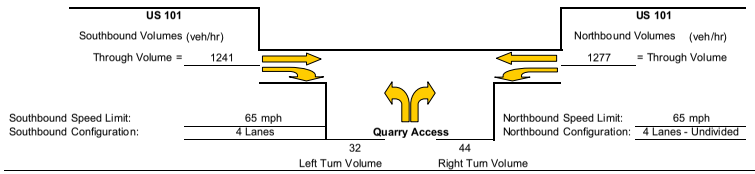
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 July Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	1241
If AV<Va then warrant is met		Yes

Right Turn Lane Warranted: **YES**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

N/A

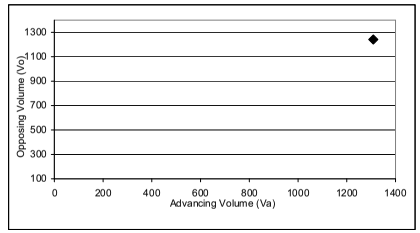
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	-
If AV<Va then warrant is met		-

Right Turn Taper Warranted: **-**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 6.5 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

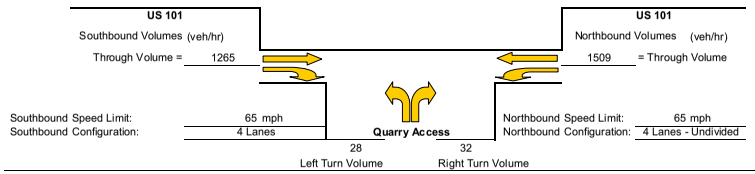
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 July Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 1265
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

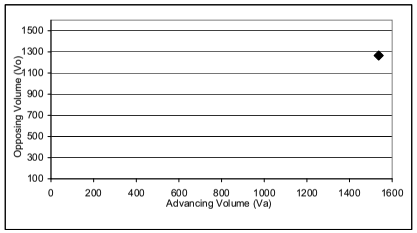
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 266.666667
   - Advancing Volume Va = 1265
   - If AV<Va then warrant is met Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 6.3 veh/hr
Left Turn Volume Vl = 28 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

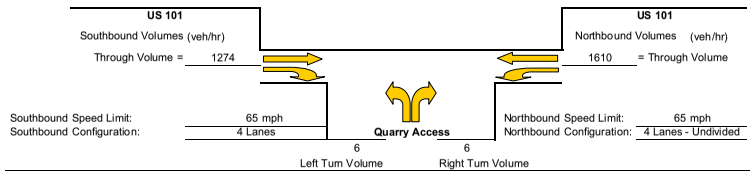
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 July Peak Project Conditions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane
   - Advancing Volume Threshold AV = -
   - Advancing Volume Va = 1274
   - If AV<Va then warrant is met -

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

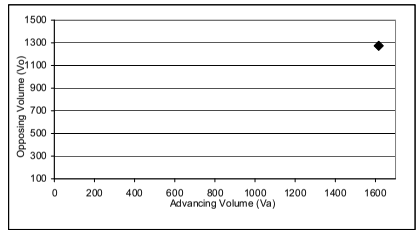
Thresholds not met, continue to next step

2. Check advance volume threshold criteria for taper
   - Advancing Volume Threshold AV = 1133.33333
   - Advancing Volume Va = 1274
   - If AV<Va then warrant is met Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 6.2 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

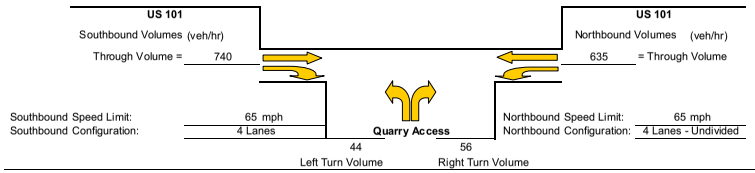
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 October Peak Project Conditons - 9:00-10:00am

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	975.9
Advancing Volume	Va =	740
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

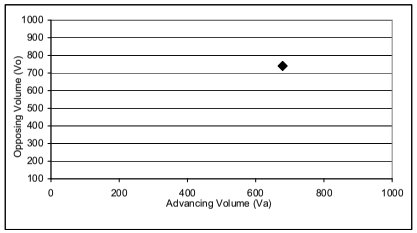
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-533.33333
Advancing Volume	Va =	740
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 12.6 veh/hr
Left Turn Volume Vl = 44 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

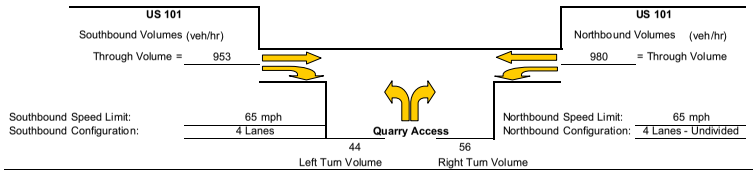
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 October Peak Project Conditions - 11:00am-Noon

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	975.9
Advancing Volume	Va =	953
If AV<Va then warrant is met		Yes

Right Turn Lane Warranted: **YES**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

N/A

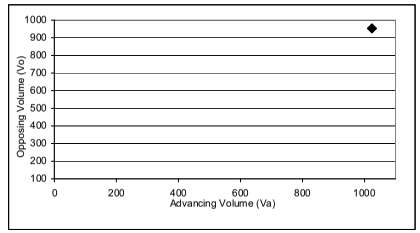
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	-
If AV<Va then warrant is met		-

Right Turn Taper Warranted: **-**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 9.5 veh/hr
Left Turn Volume Vl = 44 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

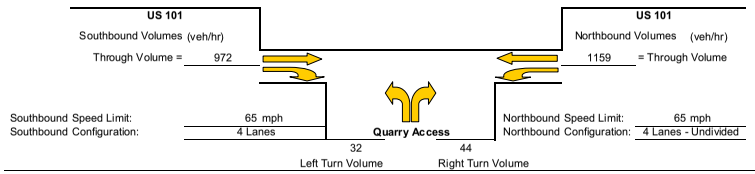
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 October Peak Project Conditions - 1:15-2:15pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1144
Advancing Volume	Va =	972
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

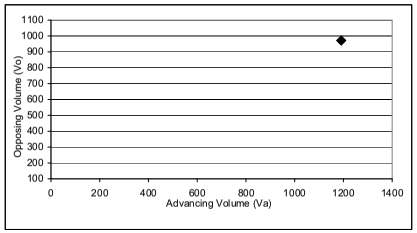
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	-133.33333
Advancing Volume	Va =	972
If AV<Va then warrant is met		Yes

Right Turn Taper Warranted: **YES**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 9.3 veh/hr
Left Turn Volume Vl = 32 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

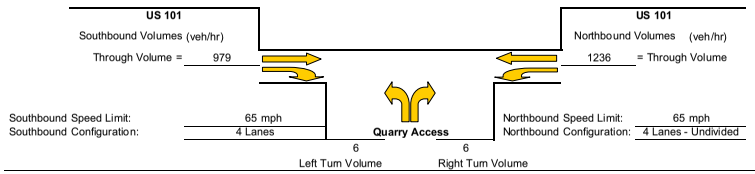
Left Turn Lane Warranted: **YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Acceleration Lane Warrant Analysis - Tee Intersections

Study Intersection: US 101/Harris Quarry Access
Study Scenario: 2040 October Peak Project Condtions - 4:45-5:45pm

Direction of Analysis Street: North/South
Cross Street Intersects: From the West



Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

NOT WARRANTED - Less than 40 vehicles

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	979
If AV<Va then warrant is met		-

Right Turn Lane Warranted: **NO**

Southbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

Thresholds not met, continue to next step

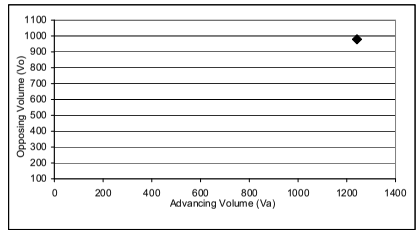
2. Check advance volume threshold criteria for taper

Advancing Volume Threshold	AV =	1133.33333
Advancing Volume	Va =	979
If AV<Va then warrant is met		No

Right Turn Taper Warranted: **NO**

Northbound Left Turn Lane Warrants

Left Turn Volume Threshold LtVol 9.2 veh/hr
Left Turn Volume Vl = 6 veh/hr
If Vl>LtVol then warrant is met



◆ Study Intersection

Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.