PLANNING COMMISSION WORK SESSION AGENDA
Monday, August 09, 2021 - 6:00 PM
City Hall, Council Chambers, 169 SW Coast Hwy, Newport, OR 97365

The meeting location is accessible to persons with disabilities. A request for an interpreter for the DEAF AND HARD OF HEARING, or for other accommodations for persons with disabilities, should be made at least 48 hours in advance of the meeting to Peggy Hawker, City Recorder at 541.574.0613, or p.hawker@newportoregon.gov.

The meeting will be live-streamed at https://newportoregon.gov, and broadcast on Charter Channel 190.

Anyone wishing to provide written public comment should send the comment to publiccomment@newportoregon.gov. The e-mail must be received at least four hours prior to the scheduled meeting.

The agenda may be amended during the meeting to add or delete items, change the order of agenda items, or discuss any other business deemed necessary at the time of the meeting.

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1. CALL TO ORDER

Jim Patrick, Bill Branigan, Lee Hardy, Bob Berman, Jim Hanselman, Gary East, Braulio Escobar, Dustin Capri, and Greg Sutton.

2. NEW BUSINESS

2.A Land Use, Building, and Urban Renewal Bill Summary from 2021 Legislative Session.

Memorandum
Homeless Legislation
Wildfire Wrap-Up

Senate Bill 458 Guidance

3. UNFINISHED BUSINESS

3.A TSP Solutions Evaluation Memo (Tech Memo #8).

Memorandum
Newport Transportation System Plan Update - Solutions Evaluation Memo (Tech Memo #8)

3.B Submitted TGM Grant Application for the City Center Revitalization Project (Informational).

Memorandum
Newport's 2021 Transportation Growth Management Grant Application
List of 2021 TGM Grant Applications

3.C Updated Planning Commission Work Program.

PC Work Program 7-26-21

4. ADJOURNMENT

City of Newport

Community Development Department

Memorandum

To: Planning Commission/Commission Advisory Committee

From: Derrick Tokos, Community Development Director

Date: August 3, 2021

Re: 2021 Legislative Update

Below are brief summaries of land use, building services, and related bills adopted during the 2021 Oregon legislative session. Like the 2019 session, there was a heavy emphasis on housing issues. Wildfire preparedness, resiliency, and recovery was also stressed. The bill numbers below include hyperlinks to the full text of the legislation. Bill summaries from the Oregon Association of Chiefs of Police (homeless legislation), 1000 Friends of Oregon (SB 762 Wildfire Legislation), and DLCD guidance for the expedited land division bill (SB 458) are included as attachments. A detailed legislative summary is being prepared by the League of Oregon Cities, and I'll forward a link to that document once it is available.

HB 2006: Emergency shelter super siting legislation that requires local governments approve an application for such a shelter regardless of state or local land use laws, if the application meets specific approval criteria outlined in the bill. Shelter sites must have adequate transportation access to commercial or medical services and may not be located in natural hazard areas (e.g. floodplains, tsunami inundation areas, geologic hazard zones). A decision to approve is not a land use decision, and the legislation removes requirements for mailed notice, public hearing, or solicitation of public comment on an application. The legislation does not specify a time limit within which a local government must render a decision, nor does it identify a process that is to be followed to approve a shelter. The shelter must be operated by an organization with at least two (2) years of experience operating an emergency shelter and is to be a housing authority, non-profit, public benefit corporation or religious entity.

The siting authority in HB 2006 sunsets on July 1, 2022, but any shelters approved under the bill may remain in operation after the sunset. Should a shelter cease to operate, then applicable land use regulations would apply again. Shelter applicants must submit applications between May 12, 2021 and June 30, 2022 to qualify under HB 2006.

Another provision of the bill eliminates the three (3) vehicle limit for car camping set out in ORS 203.082, deferring instead to whatever a local government believes is an appropriate limit. The City's car camping requirements include the three (3) vehicle limitation (Ord. #2170). Effective Date: May 12, 2021

HB 2008: The legislation requires local governments approve the development of affordable housing on property not zoned for housing, without requiring a zoning change, on property owned by a religious organization if that property is located within an urban growth boundary,

is not zoned for industrial use and is contiguous to property zoned for residential use. For a property contiguous to more than one residential property, the zoning of the property with the greatest density is applied to the new development. The bill allows local governments to apply certain restrictions or conditions of approval, provided that the conditions are clear, objective, and related to health, safety, habitability, or infrastructure. The bill further provides a property tax exemption for property owned or purchased by a religious organization that is used solely to provide affordable housing to individuals with a combined household income at or below 60% of an area's median income. The development must also be subject to an affordable housing covenant guaranteeing affordability for at least 60 years. The bill applies to property tax years beginning on or after July 1, 2021. Effective on September 25, 2021

HB 2312: The legislation clarifies that lot or parcel adjustments made through the judgment of a circuit court are considered lawfully created units of land. Such adjustments cannot result in the creation of an additional lot or parcel. The bill applies to relocations of property lines by judgments of a circuit court that were entered before, on or after January 1, 2022

HB 2180: Directs the Oregon Building Codes Division to amend state building codes to require that construction of new commercial buildings and mixed-use or multi-family buildings with five (5) or more units include electrical service with capacity to support level 2 charging stations for at least 20 percent of the vehicle parking spaces, that conduit be extended to parking areas, and that a location for installing charging stations be identified. These new requirements will not apply to townhouse developments. Jurisdictions may adopt land use regulations requiring EV service capacity for more than 20 percent of a project's parking spaces. Bill replaces the optional Electric Vehicle Ready Parking rules in OAR 918-020-0380 that the City Council expressed interest in with draft Ordinance No. 2177. Applies to new construction on or after July 1, 2022

HB 2364: This legislation allows more time for tenant organizations and owners to communicate with respect to certain aspects of the manufactured dwelling park sale process. Harbor Village RV Park recently went through this process. The bill gives tenants more time to organize and inform an owner of their intent to purchase, more time to make a formal offer, and owners more time to provide required financial information. The legislation also adds disclosure of a park's total operating expenses in the preceding calendar year to the list of financial information that is provided to tenants and requires owners to act in good faith. Finally, the measure provides for damages of 10% of a park's sale price if an owner fails to comply with process requirements, identifies the Oregon Department of Justice (DOJ) and the prevailing party as recipients of any damage award, and dedicates the DOJ's share to the Manufactured Dwelling Parks Account after costs are recuperated. Effective Date: January 1, 2022

HB 2415: Mandates that local jurisdictions that administer and enforce building inspection programs utilize the State of Oregon ePermitting system or another electronic permitting system with equivalent features. Sets January 1, 2025 as the implementation deadline. Newport already utilizes ePermitting so no changes will be needed locally to comply with the law. Effective: September 25, 2021

HB 2560: Requires local governments provide members of the public an opportunity to access and attend meetings held by a governing body of a public body (i.e. City Council, Planning Commission, etc.) by telephone, video or other electronic or virtual means to the extent reasonably possible. If in-person written testimony is allowed then the governing body must accept testimony via email or other electronic means. Applies explicitly to local quasi-judicial land use hearings conducted pursuant to ORS 197.763. Effective: September 25, 2021

HB 2583: Legislation prohibits local governments from imposing occupancy limits based on familial or nonfamilial relationships. It does not prevent local governments from addressing overcrowding through the enforcement of fire and building codes, or imposing limits on short-term rental occupancy. City's land use code will need to be amended to comply with this law. Effective Date: January 1, 2022

HB 2605: Establishes that Risk Category III and IV buildings located within tsunami inundation zones be designed for tsunami load effects in accordance with ASCE 7 standards, which are enhanced engineering design standards. This applies to a number of uses that Newport prohibits within the inundation area (e.g. police/fire stations, nursing homes, ambulance facilities, jails, and large schools); however, there are uses that the City does allow that will be subject to these requirements. Those would include certain water-dependent and related development and structures with public assembly areas with an occupancy load greater than 300 (e.g. a large church, hotel/motel, or convention center). Effective January 1, 2022

HB 2607: Provides that residential housing being constructed to replace housing destroyed or damaged by wildfire or another event or circumstance that is the basis for a state of emergency declaration shall be exempt from construction excise taxes. This will impact school construction excise taxes that the City of Newport collects on behalf of the Lincoln County School District and the City's Affordable Housing Construction Excise Tax, both of which are collected when building permits are issued. Effective: September 25, 2021

HB 2809: Allows temporary siting of recreational vehicles (RVs) on properties with single-family or manufactured dwellings that natural disasters have made uninhabitable. The legislation allows such RVs to stay on-site the date the dwelling has been repaired/replaced and an occupancy permit issued; 24 months after the date the dwelling became uninhabitable; or such other date that the local government establishes because it has determined the owner is unreasonably delaying repairs or replacement of the dwelling. This will necessitate changes to the City's land use regulations. Effective Date: January 1, 2022

HB 2884: Extends the time for recording of a partition plat from 90 days to 365 days after the date a local jurisdiction validates the unit of land for purpose of making the unit of land a lawfully established parcel. Further, the legislation allows units to become lawfully established parcels if validated by a local government before the effective date of the bill, and if the owner records the partition plat on or before December 31, 2022. These circumstances are extremely rare (more common in counties), and the City will not need to revise its regulations to comply with the law. Effective Date: January 1, 2022

HB 2918: Requires local governments submit an inventory of their surplus real property to the Oregon Department of Land Conservation and Development (DLCD) on January 1 of each even-numbered year. The DLCD is charged with developing and maintaining an online database but is not responsible for verifying the accuracy of inventory uploaded by local governments. The legislation includes a new, optional process that a city may use to sell property for the purpose of developing affordable housing as an alternative to ORS 221.725 or 2241.727. If a city chooses to use the alternative process, it is required to satisfy certain requirements established in the bill. Cities are required to submit a list of surplus real property to DLCD by January 1, 2022. Effective Date: July 27, 2021

HB 3040: Calls for the Oregon Housing and Community Services Department to conduct a comprehensive study of System Development Charges (SDCs) as defined in ORS 223.299. The study is to evaluate the role that SDCs play as both cost drivers for market-rate housing and sources of revenue for infrastructure needed for housing. It is also to compare SDCs to

other housing cost drivers such as land, labor and materials, utility rates, infrastructure costs, and costs associated with regulatory compliance. Preliminary report is due no later than December 31, 2021 with a final report on June 1, 2022. May inform future statewide legislation. The legislation further requires local jurisdictions post background information on their SDC methodology and rates to a publicly accessible website, if they maintain one, no later than January 1, 2022

HB 3109: Establishes childcare facilities as a permitted use in all commercial or industrial zoned areas, except in areas zoned for heavy industrial use. The bill prohibits local governments from enacting, enforcing, or imposing any land use regulations or fees that prohibit or place conditions on childcare facilities that are more restrictive than those imposed for other uses in the same zone. A local government may impose reasonable conditions upon the establishment or maintenance of a childcare facility in an area zoned for industrial uses, including but not limited to, siting restrictions for properties designated on the Oregon Department of Environmental Quality's statewide list of contaminated properties as having known or suspected releases of hazardous substances. City will need to amend its land use regulations as such facilities are not currently allowed outright in tourist-commercial zones. Effective January 1, 2022

HB 3115: Legislation codifies key provisions of the *Martin v. City of Boise* federal court decision. Any local government law enacted for the purpose of regulating the acts of sitting, lying, sleeping or keeping warm and dry outside on public property must be "objectively reasonable" based on the totality of the circumstances as applied to all stakeholders, including persons experiencing homelessness. The legislation creates an affirmative defense to a charge of violating a local government law that is not objectively reasonable and authorizes a person experiencing homelessness to bring suit for injunctive relief to challenge the objective reasonableness of such laws. The bill retains cities' ability to enact reasonable time, place and manner regulations. The law includes a delayed implementation date of July 1, 2023, to allow local governments time to update their ordinances, and LOC intends to prepare guidance on that topic. Effective Date: June 23, 2021

HB 3124: Extends the requirement for law enforcement to provide written notice before removing homeless individuals from an established camping site from 24 hours to 72 hours and requires the written notice be posted at all entrances to the site. The legislation also requires jurisdictions to store unclaimed personal property in a facility located in the same community as the camping site from which it was removed. The bill preserves notice exceptions when there are grounds for law enforcement officials to believe that illegal activities other than camping are occurring at an established camping site or in the event of an exceptional emergency at an established camping site, including, but not limited to, possible site contamination by hazardous materials, a public health emergency or other immediate danger to human life or safety. Effective Date: June 23, 2021

HB 3219: The legislation requires local governments to approve the development of manufactured dwelling parks destroyed or impacted by a natural disaster; authorizes local governments to rezone certain areas within an urban growth boundary for manufactured dwelling park development where manufactured dwelling destruction has contributed to housing scarcity; and expands the definition of a manufactured dwelling park to include certain relocatable prefabricated structures. The legislation prohibits local governments from requiring that an applicant prove a destroyed park was lawful under the existing land use regulations at any time, including when the building, structure or use was established, at the time of interruption or destruction or at the time of the application. The bill also specifies certain landlord and tenant responsibilities and obligations when a manufactured dwelling or park is

damaged or destroyed; allows a landlord to require a tenant to obtain and maintain renter's liability insurance under specified circumstances; and authorizes the Department of Consumer and Business Services to exempt a manufactured dwelling parks from certain building codes and to adopt temporary standards if it believes such waiver is necessary or advisable to allow for the rapid development of such manufactured dwelling park and that the waiver will not jeopardize the health and safety of the park occupants. Effective Date: June 11, 2021

HB 3261: Requires local governments to allow the conversion of hotels and motels into emergency shelters or affordable housing, regardless of state or local land use laws, if the application meets specific approval criteria in the bill. Cities may still require the converted use to comply with building codes, occupancy limits, and reasonable siting and design standards as long as the standards do not, individually or cumulatively, prohibit the conversion through unreasonable costs or delay. HB 3126 went into effect on May 6, 2021 and applies to hotel and motel conversions or applications for conversions submitted on or after January 1, 2021. The LOC worked with the bill sponsor on amendments to narrow the scope of the original bill and clarify local implementation. May 6, 2021

SB 8: Requires local governments to approve the development of certain affordable housing, and not require a zone change or conditional use permit, on land zoned to allow commercial uses, to allow religious assembly, or as public lands. Qualifying land may be owned by a public body or a religious nonprofit. The bill applies to property zoned for industrial uses only if the property is publicly owned, adjacent to lands zoned for residential uses or schools, and not specifically designated for heavy industrial uses. These requirements do not apply to land that a local government determines lacks adequate infrastructure, or on property that: contains a slope of 25% or greater; is within a 100-year floodplain; or is constrained by state land use regulations based on natural disasters and hazards or natural resources. Local governments may still impose development requirements based on siting and design standards and building permits. This legislation also includes a statewide density bonus for affordable housing in areas zoned for residential use. A local government may reduce the density or height of a development as necessary to address a health, safety or habitability issue, including fire safety, or to comply with a protective measure adopted pursuant to a statewide land use planning goal. Finally, the bill broadens the ability of applicants developing affordable housing to obtain attorney fees in prevailing appeals before LUBA. City will need to amend its regulations to comply with the law. Effective Date: January 1, 2022

SB 405: Preempts a nonconforming use from being considered interrupted or abandoned by a city or county while a federal, state, or local emergency order issued on or after January 1, 2020 temporarily limits or prohibits the use, or the restoration or replacement of the use. The City will need to update its non-conforming use regulations to align with this new law. The legislation further provides that nonconforming uses damaged or destroyed by the September 2020 wildfires may be repaired or replaced as long as the work is commenced by September 30, 2025. Effective Date: May 15, 2021

SB 458: This legislation requires that local governments approve land divisions using the expedited land division process outlined in ORS 197.360 in cases where a developer has constructed middle housing (i.e. duplexes, triplexes, fourplexes, townhouses, and cottage clusters) on a lot or parcel consistent with HB 2001 (2019). The legislation lists a limited set of non-discretionary standards that a developer must satisfy, and conditions cities and counties may impose as part of a decision approving a land division. This will necessitate changes to the City's land division regulations. Effective Date: January 1, 2022

SB 762: Provides the administrative structure and policy guidance for state agencies to follow-up with additional resources, oversite, and regulations to reduce the risk of wildfire in the Wildland Urban Interface (WUI). The WUI is effectively the area/band of unoccupied or sparsely developed rural lands that is on the edge of an urban setting. There are multiple advisory groups that will be established by this legislation to take a deeper dive into future land use decisions, emergency response coordination, landowner responsibilities and the mapping process that the Oregon Department of Forestry (ODF) and Oregon State University will be responsible for. May lead to defensible space and building code changes that the City will need to adopt in the next 2-3 years. Multiple effective dates.

SB 866: Allows cities that used the services of contract building officials as of 2018 to maintain their program in that manner with additional oversite. Contract building officials include persons that provide inspections and plan review services for a fee. Newport's building service program is structured in this manner. The legislation responded to an Oregon Department of Justice legal opinion which concluded that state law required that building officials, including all inspectors, be public employees. Persons providing contract building official services will now be Public officials for the purposes of ORS Chapter 244 (government ethics). Effective: September 25, 2021

Attachments
Homeless Legislation Bill Summary, OACP/OSSA Lobbyist, dated June 29, 2021
Legislative Wildfire Wrap-up, 1000 Friends of Oregon, dated July 1, 2021
Oregon Department of Land Conservation and Development, SB 458 Guidance, dated July 8, 2021

HOMELESS LEGISLATION:

2021 LEGISLATIVE SESSION

Kevin Campbell, OACP/OSSA Lobbyist
6-29-2021

The following identifies the legislation passed during the 2021 Legislative Session addressing homelessness and provides details regarding the key provisions for each measure:

HB 2006 – Emergency Shelters/Transitional Housing Accommodations/Low-barrier Emergency Shelters and Navigation Centers

Emergency Shelters

- Defines "emergency shelter" as a building or cluster of buildings that provides shelter on a temporary basis for individuals and families who lack permanent housing.
- Provides that a building or cluster of buildings used as an emergency shelter under an approval granted under section 3 of this 2021 Act or section 11, chapter 12, Oregon Laws 2020 (first special session):
  - May resume its use as an emergency shelter after an interruption or abandonment of that use for two years or less, notwithstanding ORS 215.130 (7).
  - May not be used for any purpose other than as an emergency shelter except upon application for a permit demonstrating that the construction of the building and its use could be approved under current land use laws and local land use regulations.
- Provides that an approval of an emergency shelter under this measure or section 11, chapter 12, Oregon Laws 2020 (first special session) is void unless the shelter is operating within two years following the approval.
- Requires a local government to approve an application for the development or use of land for an emergency shelter, if the emergency shelter:
  - Includes sleeping and restroom facilities for clients
  - Will comply with applicable building codes
  - Is located inside and urban growth boundary or in an area zoned for rural residential use
  - Will not result in the development of a new building that is sited within an area designated under a statewide planning goal relating to natural disasters and hazards (flood plains or mapped environmental health hazards) unless the development complies with regulations directly related to the hazard;
  - Has adequate transportation access to commercial and medical services; and
  - Will not pose any unreasonable risk to public health or safety.

- Requires an emergency shelter, as defined by the measure, to be operated by:
  - A local government (ORS 174.116)
  - An organization with at least two years of experience operating and emergency shelter using best practices that is:
    - A local housing authority (ORS 456.375)
    - A religious corporation (ORS 65.001); or
    - A public benefit corporation (ORS 65.001), whose charitable purpose includes the support of homeless individuals, that has been recognized as exempt from income tax under section 501(a) of the Internal Revenue Code on or before January 1, 2018; or
  - A nonprofit corporation partnering with any other entity identified as an approved operator by the measure.
- Provides that an emergency shelter approved under the provisions of the measure:
  - May provide the following on-site for its clients and at no cost to the clients:
    - Showering or bathing;
    - Storage for personal property;
    - Laundry facilities;
    - Service of food prepared on-site or off-site;
    - Recreation areas for children and pets;
    - Case management services for housing, financial, vocational, educational or physical or behavioral health care services; or
    - Any other services incidental to shelter.
  - May include youth shelters, winter or warming shelters, day shelters and family violence shelter homes (ORS 409.290).
- Provides that an emergency shelter approved based on the provisions of this measure are authorized to provide additional services to individuals who are transitioning from unsheltered homeless status and allows the organization providing services to charge a fee of no more than $300 per month per client and only to clients who are financially able to pay the fee and who request the services.
- Clarifies that the approval of an emergency shelter as defined by the measure is not a land use decision and is subject to review only under ORS 34.010 to 34.100.
- Provides that the emergency shelter approval requirement/process is repealed on July 1, 2022 for applications not completed and submitted before the date of the repeal.

Enhanced Transitional Housing Accommodations Definition

- Amends the definition of "transitional housing accommodations" to include areas in parking lots or facilities for individuals or families to reside overnight in a motor vehicle, without regard to whether the motor vehicle was designed for use as temporary living quarters.
- Provides that any political subdivision may:

  - Allow any public or private entity to allow overnight camping by homeless individuals living in vehicles on the property of the entity.
  - may impose reasonable conditions upon offering camping space, including establishing a maximum number of vehicles allowed.
- Requires entities approved by a political subdivision to provide camping spaces must also provide access to sanitary facilities, including toilet, handwashing and trash disposal facilities.
- Authorizes the Oregon Housing and Community Services Department to use resources from the Emergency Housing Account for development of technical assistance and training resources for organizations developing and operating emergency shelters and transitional housing accommodations based on the measure.

Low-barrier emergency shelters:

- Defines "low-barrier emergency shelter" as an emergency shelter that follows established best practices to deliver shelter services that minimize barriers and increase access to individuals and families experiencing homelessness.
- Requires the Oregon Housing and Community Services Department to award grants and provide technical assistance to organizations to fund:
  - The construction, purchase or lease of facilities to be used as low-barrier emergency shelters;
  - The operation, use or staffing of low-barrier emergency shelters, including the costs to provide clients with access to the shelters;
  - The development or use of amenities or facilities that provide no-cost services to individuals and families who are homeless, including restroom and hygiene facilities, laundry facilities, dining facilities, storage for personal property, meeting or gathering spaces and facilities providing case management services; or
  - Rapid rehousing services and supports for individuals and families.
- Requires the Oregon Housing and Community Services Department to:
  - Ensure that funds are distributed among different region of the state; and
  - Prioritize funding areas of highest need as identified in the August 2019 Oregon Statewide Shelter Study.
  - Ensure that grants are awarded through a competitive process that emphasizes collaborative proposals; or to one or more community action agencies.

Navigation Centers

- Defines "navigation center" as a low-barrier emergency shelter that is open seven days per week and connects individuals and families with health services, permanent housing and public benefits.
- Authorizes the Oregon Department of Administrative Services to award grants to local governments to:
  - Plan the location, development or operations of a navigation center;
  - Construct, purchase or lease a building for use as a navigation center;

- Operate a navigation center that has been constructed, purchased or leased; or
- Contract for the performance of activities related to a navigation center.

- Requires local governments receiving a grant to return all moneys granted if the navigation center subject to the grant is not operating on or before July 1, 2022.
- The following grants were awarded to specified nonprofit organizations and local governments through HB 5042 to establish and/or operate navigation centers to assist individuals and families with access to health services, permanent housing, and public benefits. The grants were awarded as follows:
  - $1,500,000 to the City of McMinnville for a navigation center;
  - $1,500,000 to the City of Roseburg for a navigation center;
  - $2,000,000 to Bybee Lakes Hope Center for a navigation center;
  - 2,500,000 to the City of Bend for a navigation center;
  - $2,500,000 to the City of Medford for a navigation center;
  - $5,000,000 to the City of Salem for a navigation center; and
  - $5,000,000 to Lane County for a navigation center within the City of Eugene

HB 3115 – Homelessness: Codification of Martin v. Boise

HB 3115 seeks to codify the 2019 9th Circuit Court of Appeals decision in Martin v. Boise relating to local laws regulating the acts of sitting, lying, sleeping, or keeping warm and dry in
outdoor public spaces with regards to persons experiencing homelessness. The measure includes the following key provisions:

- Defines "keeping warm and dry" to mean using measures necessary for an individual to survive outdoors given the environmental conditions but does not include using any measure that involves fire or flame.
- Defines "public property" to mean the term as it is defined in ORS 131.705.
- Provides that "city or county law" does not include policies developed pursuant to ORS 203.077 or 203.079.
- Provides that any city or county law that regulates the acts of sitting, lying, sleeping or keeping warm and dry outdoors on public property that is open to the public must be objectively reasonable as to time, place and manner with regards to persons experiencing homelessness.
- Creates an affirmative defense to a charge of violating a city or county law regulating the acts of sitting, lying, sleeping or keeping warm and dry outdoors on public property that is open to the public that the law is not objectively reasonable.
- Authorizes a person experiencing homelessness to bring suit for injunctive or declaratory relief to challenge the objective reasonableness of these city or county laws and requires that the action be brought in the circuit court of the county that enacted the law or of the county in which the city that enacted the law is located.

- Requires "reasonableness" to be determined based on the totality of the circumstances, including, but not limited to, the impact of the law on persons experiencing homelessness.
- Allows the court, in its discretion, to award reasonable attorney fees to a prevailing plaintiff if the plaintiff:
  - Was not seeking to vindicate an interest unique to the plaintiff; and
  - At least 90 days before the action was filed, provided written notice to the governing body of the city or county that enacted the law being challenged of an intent to bring the action and the notice provided the governing body with actual notice of the bases the plaintiff intends to challenge the law.
- Clarifies that the measure does not create a private right of action for monetary damages.
- Provides that the requirements of the measure become operative on July 1, 2023

HB 3124 – Removal of Homeless from Established Camping Sites – Notice and Personal Property Requirements

- Defines "personal Property as any item that can reasonably be identified as belonging to an individual and that has apparent value or utility.
- Requires law enforcement officials, at least 72 hours before removing homeless individuals from an established camping site to post a written notice in English and Spanish at all entrances to the camping site to the extent that the entrances can reasonably be identified.
- Requires law enforcement officials, when a 72-hour notice is posted, to inform the local agency that delivers social services to homeless individuals as to where the notice has been posted.
- Requires all personal property at the camping site that remains unclaimed after removal to be given to a:
  - law enforcement official,
  - local agency that delivers social services to homeless individuals,
  - outreach worker,
  - local agency official or a person authorized to issue a citation for unlawful camping under state law, administrative rule or city or county ordinance, whether the 72-notice is required or not.
- Requires unclaimed personal property to be stored:
  - For property removed from camping sites in counties other than Multnomah County, in a facility located in the same community as the camping site from which it was removed.
  - For property removed from camping sites in Multnomah County, in a facility located within six blocks of a public transit station.
  - Items that have no apparent value or utility or are in an insanitary condition may be immediately discarded upon removal of the homeless individuals from the camping site.

- Weapons, controlled substances other than prescription medication and items that appear to be either stolen or evidence of a crime shall be given to or retained by law enforcement officials.

- Requires the written notice, at a minimum, to include:
  - Where unclaimed personal property will be stored;
  - A phone number that individuals may call to find out where the property will be stored; or
  - If a permanent storage location has not yet been determined, the address and phone number of an agency that will have the information when available.
- Requires unclaimed property to be stored in an orderly fashion, keeping items that belong to an individual together to the extent that ownership can reasonably be determined.
- Requires personal property to be stored for a minimum of 30 days during which time it shall be reasonably available to any individual claiming ownership.
- Personal property unclaimed after 30 day may be disposed of or donated to a 501(c)(3) corporation (Internal Revenue Code as amended and in effect on Dec. 31, 2020).
- Provides that the 72-hour notice requirement does not apply:
  - When there are grounds for law enforcement officials to believe that illegal activities other than camping are occurring at an established camping site.
  - In the event of an exceptional emergency at an established camping site, including, but not limited to, possible site contamination by hazardous materials, a public health emergency or other immediate danger to human life or safety.
- Allows a notice to be posted at least 24 hours before removing individuals from a camping site if a funeral service is scheduled with less than 72 hours' notice at a cemetery at which there is a camping site, or a camping site is established at the cemetery less than 72 hours before the scheduled service.
- Prohibits a person authorized to issue a citation for unlawful camping (under state law, administrative rule or city or county ordinance) from issuing a citation within 200 feet of a notice required by the measure and within two hours before or after the notice was posted.
- Provides that any law or policy of a city or county that is more specific or offers greater protections to homeless individuals subject to removal from an established camping site preempts contrary provisions of this measure.
- Effective Date: Took effect on the date the Governor signed the measure into law on June 23, 2021.

HB 3261 – Project Turnkey: Zoning for Hotel/Motel Conversion to Emergency Shelter/Affordable Housing

- Requires a local government to unconditionally allow the conversion of the lawful use of a property, notwithstanding any statewide land use planning goals or land use regulations:
  - From use as a hotel or motel, to use as an emergency shelter.
  - From use as a hotel or motel, or a hotel or motel that was converted to an emergency shelter, to use as affordable housing.
- Provides that the conversion requirement only applies to areas:
  - Within an urban growth boundary;
  - Not designated by the local government as specifically for heavy industrial uses;
  - With adequate transportation access to commercial and medical services; and
  - Not within an area designated for a statewide land use planning goal relating to natural disasters or hazards, including flood plains or mapped environmental health hazards, unless the converted use complies with regulations directly related to the disasters or hazards.
- Authorizes a local government to require a converted use to comply with:
  - Applicable building codes;
  - Occupancy limits; or
  - For affordable housing uses, reasonable standards relating to siting or design, if the standards do not, individually or cumulatively, prohibit the conversion through unreasonable costs or delay.
- Provides that conversions identified by the measure does not constitute a land use decision as defined in ORS 197.015.
- Provides that a local government is not required to consider whether the conversion significantly affects an existing or planned transportation facility for the purposes of implementing a statewide land use planning goal relating to transportation.
- Defines the following terms for purposes of the measure:
  - "Affordable housing" means housing in which all units are affordable to households with incomes equal to or less than 60 percent of the area median income as defined in ORS 458.610 and whose affordability is enforceable by an affordable housing covenant, as described in ORS 456.270 to 456.295, for a duration of no less than 30 years.
  - "Conversion" includes an alteration to a building that changes the number of units but does not expand the building footprint.
  - "Emergency shelter" means a building that provides shelter on a temporary basis for individuals and families who lack permanent housing.
  - "Lawful use" includes a nonconforming use as described in ORS 215.130 (6) or any other local land use regulation allowing for the continuation of a use that was lawful when first enacted.
- Applies to conversions or applications for conversions on or after January 1, 2021.

- Effective Date: Took effect on the date the Governor signed the measure into law on May 6, 2021.

NOTE: In 2020, the Oregon Legislature allocated a total of $65 million of CARES Act funding through the Oregon Joint Legislative Emergency Board for Project Turnkey for the purpose of acquiring motels/hotels for use as non-congregate shelter for people experiencing homelessness or at-risk of homelessness. The two funds included:

- $30 million designated for shelter opportunities in counties or tribal communities impacted by the 2020 wildfires has been fully allocated, resulting in the funding of seven projects for a total of 388 units in six counties (appropriated on 10/23/2020).
- $35 million designated for shelter opportunities in the remaining areas of the state. Of this amount, $31.2 million has been allocated to date (appropriated on 11/9/2020).

During the 2021 Legislative Session, an additional 9.7 million was appropriated in HB 2004 to the Oregon Community Foundation to complete Project Turnkey projects in Deschutes, Multnomah, Malheur and Yamhill counties. In addition, $800,000 was appropriated for a Turnkey project in Salem and $5,107,713 was appropriated for a Turnkey project in Corvallis in HB 5006.

Donate

Our Legislative Wildfire Wrap-Up | SB 762

July 1, 2021

On the final day of the 2021 session, the legislature passed Oregon's first comprehensive wildfire preparedness and resiliency bill, Senate Bill 762. Passage of this bill was a key part of our legislative agenda, and we could not have done it without Oregonians like you from every corner of the state. Land use is a critical component of a comprehensive approach to living with wildfires and creating community resilience in the face of climate change.

Our efforts on this work date back to 2018, with the publication of our report, *A New Vision for Wildfire Planning: A Report on Land Use and Wildfires.* We laid out key recommendations in this report that are achieved by SB 762:

1. **Map wildfire risk across Oregon.** SB 762 requires that the Oregon Dept of Forestry (ODF) develop a comprehensive statewide map of wildfire risk displaying five classifications of wildfire risk, from none to extreme. The map will be useable to the parcel level and include layers identifying vulnerable populations, locations of critical services such as hospitals, major infrastructure, and other important data layers. The map will be developed with input from Oregon State University, state agencies, the State Fire Marshal, federally recognized Indian tribes, local governments, and others.
2. **Avoid development in high-risk areas and limit structures to those needed for farming and forestry.** SB 762 directs the Department of Land Conservation & Development (DLCD) to determine the updates needed to the statewide land use planning program and local comprehensive plans and zoning codes to incorporate the wildfire risk map so as to minimize risk — including through provisions on development considerations in high and extreme wildfire risk areas, defensible space, building codes, and safe evacuation routes. DLCD will submit its assessment to the Oregon Legislature by the end of 2022, for possible future legislation.
3. **Mitigate risks to existing and future development.** SB 762 requires the state to adopt wildfire hazard mitigation building code standards and apply them to new dwellings and accessory structures, as well as standards for additions to existing dwellings and accessory structures and for replacement of existing exterior elements.
4. **Don't delay in search of perfect information**. SB 762 includes short deadlines to complete the actions and rulemaking in the bill. Within 100 days, ODF must define the wildland urban interface, based on nationally-recognized best practices. The wildfire risk map must be prepared by June 2022. DLCD's report on incorporating the maps into land use planning is due by December 2022.The State Fire Marshal must develop the defensible space standards by December 2022. The wildfire hazard mitigation building code standards are to be applicable after April 2023.

SB 762 contains other provisions critical to a comprehensive wildfire program, based on best practices supported by those who are on the frontlines keeping our homes, communities, and lives safe when fires do occur, and on input from Oregonians across the state. Senate Bill 762 also:

- Creates a wildfire emergency shelter program, including clean air shelters and evacuation services.
- Funds a grant program for filtration systems to handle wildfire smoke.
- Establishes policies for community-driven restoration of forests and rangelands.
- Establishes electric utility planning requirements for wildfire events.
- Increases firefighter capacity, including air defense resources.
- Invests in youth and workforce training programs to help manage forest lands.
- Invests nearly $200 million to implement these policies.

It took legislative leadership to pass this bill, and 1000 Friends particularly thanks Sen. Jeff Golden and Rep. Pam Marsh for their tenacity and wisdom in getting SB 762 across the finish line. And it also took a coalition of advocates that worked closely with one another, including The Nature Conservancy, Sustainable Northwest, the Oregon Conservation Network, and the League of Women Voters of Oregon.

In many ways, SB 762 is just the first step. Now 1000 Friends will dive into rulemaking to ensure the intent of the legislation gets implemented on the ground and makes a real difference for Oregonians.

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OREGON
Department of
Land Conservation
& Development

Senate Bill 458 Guidance

(Updated July 8, 2021)

Background

Senate Bill 458 was adopted by the Oregon Legislature in 2021. The bill is a follow-up to House Bill 2001 - the bill that legalizes middle housing in many cities throughout the state - and allows lot divisions for middle housing that enable them to be sold or owned individually.

Senate Bill 458 Summary

For any city or county subject to the requirements of House Bill 2001, Senate Bill 458 requires those jurisdictions to allow middle housing lot divisions for any HB 2001 middle housing type (duplexes, triplexes, quadplexes, townhouses, and cottage clusters) built in accordance with ORS 197.758. Senate Bill 458 only applies to middle housing land divisions permitted on or after June 30, 2022.

The bill sets forth a series of parameters on how a city must process middle housing lot division applications. The city must apply an "expedited land division" process defined in ORS 197.360 through 197.380, and the applicant must submit a tentative plan for the division including the following:

- A proposal for development of middle housing in compliance with the Oregon residential specialty code and applicable middle housing land use regulations,
- Separate utilities for each dwelling unit,
- Easements necessary for utilities, pedestrian access, common use areas or shared building elements, dedicated driveways/parking, and dedicated common area,
- One dwelling unit per each resulting lot or parcel (except common areas), and
- Demonstration that the buildings will meet the Oregon residential specialty code.

Additionally, cities retain the ability to require or condition certain things, including further division limitations, street frontage improvements, and right-of-way dedication if the original parcel did not make such dedications. They *may not* subject applications to approval criteria outside of what is provided in the bill, including that a lot or parcel require driveways, vehicle access, parking, or min/max street frontage, or requirements inconsistent with House Bill 2001, including OAR Chapter 660, Division 046.

Guidance

DLCD staff have received a significant number of questions regarding Senate Bill 458 and how cities or counties can best prepare to comply with the law. Below are answers to commonly asked questions. If you find that you have a question that has not been addressed in this document, please reach out to the Housing Team at housing.dlcd@dlcd.oregon.gov.

SB 458 Deadline

Question: This bill applies to middle housing lot divisions permitted on or after June 30, 2022. Will cities or counties need to incorporate these standards before this deadline?

Answer: *It is highly advisable, but not required, for cities or counties to incorporate middle housing lot division standards into their development codes. On the June 30, 2022 deadline, a city or county that has not incorporated lot division standards within their development codes would utilize the bill language directly to process middle housing lot divisions under SB 458.*

Question: Medium cities need to allow duplexes on lots/parcels that allow single-family detached dwellings by June 30, 2021 (i.e. this year). Are duplexes built between this deadline and the SB 458 deadline eligible for a middle housing lot division?

Answer: *A duplex built pursuant to ORS 197.758 (i.e. House Bill 2001) during this time period would be eligible to apply for a middle housing land division under SB 458 on June 30, 2022, provided it met the applicable requirements outlined in the bill.*

Question: Do cities or counties need to allow lot divisions for middle housing built prior to House Bill 2001?

Answer: *SB 458 requires a middle housing lot division application submit: "A proposal for development of middle housing in compliance with the Oregon residential specialty code and land use regulations applicable to the original lot or parcel allowed under ORS 197.758 (5)". This means that any lot division proposal will need to demonstrate compliance with both applicable building code and HB 2001 middle housing code in order to be eligible for a lot division under SB 458.*

There is a potential hypothetical scenario in which a pre-HB 2001 middle-housing type could make this demonstration, but 1.) this is an unlikely scenario and 2.) a jurisdiction retains the ability to require the applicant demonstrate the middle housing type complies with applicable building code and middle housing code before approving a middle housing lot division proposal.

Applicability, Application Process, and Submittal Requirements

Question: What middle housing types are eligible for division under SB 458?

Answer: *The bill specifies any lot or parcel that allows middle housing under ORS 197.758 (2) or (3) qualifies for a middle housing land division under SB 458. This includes duplexes, triplexes, quadplexes, townhouses, and cottage clusters in applicable cities and unincorporated, urban portions of Metro counties. Accessory dwelling units are not eligible for lot division under SB 458.*

Question: SB 458 requires cities or counties to apply the expedited land division process. What is this?

Answer: *The expedited land division process is outlined in ORS 197.360 to 197.380. It is an alternative procedure application intended to streamline the review of land divisions under state law. While typical land use applications must be completed within 120 days (ORS 227.178), an expedited land division must be processed within 63 days or extended by the governing body of a local jurisdiction (not to exceed 120 days).*

Question: The expedited land division process under ORS 197.360(1)(b) seems to only include divisions of three or fewer parcels. Does this mean that a middle housing land division is limited to three total parcels?

Answer: *No. First, ORS 197.360(1)(a) allows an expedited land division to be any size, while ORS 197.360(1)(b) clarifies that the expedited land division process is also extended to divisions of three or fewer parcels.*

Additionally, SB 458 requires that local jurisdictions apply the expedited land division procedure outlined in ORS 197.360 to 197.380, a "middle housing land division" is distinct from an "expedited land division" and may contain more than three parcels, provided that each resultant lot or parcel contains one unit.

Question: Can a city or county apply a typical land division process to a middle housing land division application?

Answer: *SB 458 specifies that a city or county "shall apply the procedures under ORS 197.360 to 197.380". This means that a city or county cannot require a middle housing land division to undergo a standard land division pathway.*

Question: This bill seems to suggest that the jurisdiction must approve an application for middle housing land division after or concurrent with the issuance of a building permit, which is backwards in comparison to typical subdivisions. Can you clarify when an applicant may submit an application for a middle housing lot division?

Answer: *Senate Bill 458 does not state that a middle housing land division must occur either before or after the issuance of a building permit. We anticipate that most middle housing land divisions will occur before the application for a building permit, similar to other housing land division processes. However, we also anticipate that there may be circumstances in which an applicant submits a land division application after developing a middle housing type. In both scenarios, the applicant must demonstrate that the proposal meets applicable building code and middle housing code as well as the requirements outlined in SB 458.*

Additionally, the bill specifies that a city or county may allow the submission of a middle housing land division at the same time as submission of an application for a building permit, but they are not required to.

Lot Division Standards and Conditions for Approval

Question: SB 458 sets out several requirements that applicants must demonstrate outlined in the summary above. What else are jurisdictions allowed to require or condition?

Answer: *The bill allows jurisdictions to require or condition the following:*

- *Prohibition of further division of the resulting lots or parcels*
- *Require notation in the final plat indicating approval was provided under SB 458 (later on, this will be the resultant ORS reference)*
- *Require street frontage improvements where a lot or parcel abuts a street (consistent with House Bill 2001)*
- *Require right-of-way dedication if the original parcel did not previously provide a dedication*

Question: Will jurisdictions be able to require applicants to submit tentative and final plats consistent with local platting standards?

Answer: *Yes, jurisdictions may require that the applicant submit tentative and final plats in a manner consistent with their applicable platting standards.*

Question: Can jurisdictions require that easements be submitted in a form approved by the City Attorney and address specific issues like maintenance and repair, cost-sharing, access, notice, damage, disputes, etc.?

Answer: *Yes, cities are permitted to specify the format and issues an easement addresses, provided that they are specific to the types of easements specified in Section 2(2)(c) of the bill, including:*

A. Locating, accessing, replacing and servicing all utilities;
B. Pedestrian access from each dwelling unit to a private or public road;
C. Any common use areas or shared building elements;
D. Any dedicated driveways or parking; and
E. Any dedicated common area;

Question: What requirements are jurisdictions limited in requiring for a middle housing lot division?

Answer: *The bill specifies that a jurisdiction may not subject a middle housing lot division application to approval criteria except as provided in Section 2 of the bill. The bill specifies that this includes the following:*

- *Require that a lot or parcel provide driveways, vehicle access, parking or minimum or maximum street frontage*
- *Subject an application to procedures, ordinances or regulations adopted under ORS 92.044 or 92.046 that are inconsistent with Section 2 of the bill or ORS 197.360 to 197.380.*

Question: Does that mean jurisdictions cannot require off-street parking for middle housing?

Answer: *Jurisdictions are still permitted to require off-street parking and all other land use regulations in accordance with the parameters set forth in administrative rule, OAR Chapter 660, Division 046, but they may not require that each resultant lot or parcel have off-street parking. Such a lot or parcel would be provided access to off-street parking via easement.*

Question: Cities or counties cannot require street frontage under SB 458, but can they limit how many lots within a land division do not have street frontage? For example, could a city limit the number of cottages in a cottage cluster development that only have street access from an access easement?

Answer: *The bill states that a city or county "may not subject an application to approval criteria except as provided in this section". The restriction on minimum or maximum frontage is an explicit example of this prohibition. Because there is nothing in this section specifying the number of units that may only have street access from an access easement, a local jurisdiction would not be able to include such a limitation as a standard or condition of approval.*

Question: Section 2 (4)(b) allows cities or counties to require street frontage improvements. Would this enable them to require frontage improvements that might otherwise be exempted for single-family detached dwellings, which is prohibited in OAR Chapter 660, Division 046?

> ***Answer:*** *Yes. This provision would enable a city to require street frontage improvements in situations where it might not otherwise be permitted under administrative rule. We also think this can be a compelling incentive to better address the street frontage deficiencies that persist today in older single-family neighborhoods.*

Question: Does SB 458 require local jurisdictions to approve vertical divisions (i.e. divisions in which one or more units of middle housing is not on the ground floor) of middle housing in addition to horizontal divisions?

> ***Answer:*** *Senate Bill 458 does not speak to vertical divisions of middle housing and requires that each resultant lot or parcel contain exactly one unit. Therefore, cities are not required to allow vertical divisions of middle housing.*

Townhouses

Question: Does SB 458 apply to lot divisions for townhouses allowed under HB 2001?

> ***Answer:*** *The bill applies to any lot or parcel that allows middle housing under ORS 197.758, including townhouses. Local jurisdictions must allow townhouse proposals to undergo the lot division process outlined in SB 458, including the application of the procedures outlined in ORS 197.360 through 197.380.*

Question: The bill restricts cities or counties from applying minimum or maximum frontage requirements to lots or parcels created under SB 458. This seems to conflict with OAR 660-046-0220(3)(b) regarding minimum street frontages applied to townhouses. Are jurisdictions permitted to apply minimum street frontages to townhouses?

> ***Answer:*** *Yes, SB 458 specifies that in order for a middle housing proposal to be eligible for a land division, it must comply with all of the land use regulations applicable to the original lot or parcel allowed under ORS 197.758 (5), which includes the full scope of administrative rules outlined in OAR Chapter 660, Division 046. Therefore, local governments are able to, but are not required to, apply minimum street frontages to townhouses as permitted in OAR 660-046-0220(3)(b).*
>
> *Local governments will not be able to apply minimum street frontage requirements for individual units for plexes and cottage clusters. However, they may apply lot dimensional standards to the parent lot as provided in OAR 660-046-0220. We recommend that local jurisdictions carefully consider the incentives and resulting form for each middle housing type when developing middle housing land use regulations.*

City of Newport

Community Development Department

Memorandum

To: Planning Commission/Commission Advisory Committee

From: Derrick I. Tokos, AICP, Community Development Director

Date: August 4, 2021

Re: TSP Solutions Evaluation Memo (Tech Memo #8)

Enclosed is a Solutions Evaluation memo, prepared by DKS & Associates, summarizing preliminary transportation solutions that respond to system performance issues identified through public outreach and technical analysis.

A copy of the memo is posted to the project website. Large scale projects identified in the document were vetted with the Project Advisory Committee and reviewed by the Commission and Council at joint work sessions. An initial review of the full document was performed by the Community Development Director, Acting Public Works Director and Acting City Engineer. This resulted in some pretty significant revisions and staff has not had an opportunity to review and comment on this new version. There are corrections that we will want to see made, and I welcome your comments once you have had a chance to read through the materials.

As we have discussed, the tech memos are akin to chapters of the TSP, and this work session has been scheduled to provide Planning Commission and Advisory Committee members an opportunity to become familiar with the full palette of proposed transportation improvements, ask questions, or request revisions. The consultants are beginning to put the TSP together and it may be that recommended changes coming out of this meeting will be reflected in that document as opposed to another round of edits to the tech memo.

Attachments
Newport Transportation System Plan Update - Solutions Evaluation Memo (Tech Memo #8)

SOLUTIONS EVALUATION MEMORANDUM

DATE: July 30, 2021

TO: Derrick Tokos | City of Newport
James Feldman | ODOT

FROM: Rochelle Starrett, Kevin Chewuk, Carl Springer | DKS

SUBJECT: Newport TSP Update
Technical Memorandum #8: Solutions Evaluation

Project #17081-007

This memo summarizes the preliminary transportation solutions identified for the City of Newport. The recommended solutions respond to system performance issues identified through the public outreach process, the prior technical analysis by the consultant team, and on-going feedback and reviews by city staff, the Project Advisory Committee, and the Project Management Team. The system solutions identified include pedestrian and bicycle enhancements along with minor roadway capacity improvements for motor vehicles. In addition, a more in-depth evaluation was made regarding several major roadway improvement concepts to help understand the trade-offs, expected benefits and potential risks of implementing each alternative major solution. This deeper technical review considered solutions along the US 101 and US 20 in the downtown core area, as well as a possible Harney Street extension to establish a new circulation route between US 20 and US 101 near NE 36th Street.

While projects documented in this memo are needed to develop a future, multimodal transportation system for Newport, funding will not be available to construct all recommended capital improvements. Evaluation criteria, that will be used to rank and prioritize transportation improvements at a later date, are also provided. The recommended evaluation criteria and project cost estimates will be used to develop a financially constrained project list as part of Task 5.10. The projects presented in this memo are still preliminary and will be refined prior to implementation of the Transportation System Plan (TSP). Furthermore, inclusion of a project in this memo does not commit the City of Newport to its ultimate construction.

APPROACH TO DEVELOPING NETWORK IMPROVEMENTS

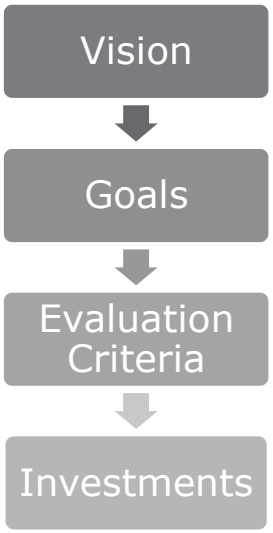
Newport's approach to developing transportation projects emphasized improved system efficiency and management over adding capacity. The approach considered four tiers of priorities that included:

1. Highest Priority – preserve the function of the system through management practices such as improved traffic signal operations, encouraging alternative modes of travel, and implementation of new policies and standards.

2. High Priority – improve existing facility efficiency through minor enhancement projects that upgrade roads to desired standards, fill important system connectivity gaps, or include safety improvements to intersections and corridors.

3. Moderate Priority – add capacity to the system by widening, constructing major improvements to existing roadways, or extending existing roadways to create parallel routes to congested corridors.

4. Lowest Priority – add capacity to the system by constructing new facilities.



The project team recommended higher priority solution types to address identified needs unless a lower priority solution was clearly more cost-effective or better supported the goals and objectives of the City. This process allowed the City to maximize use of available funds, minimize impacts to the natural and built environments, and balance investments across all modes of travel.

Measurable evaluation criteria were developed based on Newport's transportation goals and objectives (see Technical Memorandum #4: Goals and Objectives). These evaluation criteria will be used to screen and prioritize transportation solutions in the next phase of the solutions evaluation process. The prioritized solutions, consequently, will be consistent with the goals and objectives. The identified evaluation criteria will also consider available funding sources to help prioritize projects. The next phase of the solutions evaluation process will include project cost estimates and potential funding sources. For projects within Newport's Urban Renewal District boundaries, a lower priority project may be advanced over a higher priority project located outside the district due to specific funding constraints.

EVALUATION CRITERIA

Newport's evaluation criteria were developed from the city's specific transportation goals and objectives (see Technical Memorandum #4: Goals and Objectives) to screen and prioritize transportation solutions. The recommended evaluation criteria for each goal is summarized below

in Table 1. Details for how each evaluation criteria will be applied to a transportation project is provided in Appendix 1.

TABLE 1: RECOMMENDED EVALUATION CRITERIA

#	GOAL	DESCRIPTION	EVALUATION CRITERIA
1	SAFETY	Improve the safety of all users of the system for all modes of travel	(1) Project is expected to reduce crash rate and/or severity
2	MOBILITY AND ACCESSIBILITY	Promote efficient travel that provides access to goods, services, and employment to meet the daily needs of all users, as well as to local and regional major activity centers	(1) Project reduces vehicle delay (2) Project increases system connectivity (3) Project includes travel demand management or transportation system management and operations to better manage system capacity
3	ACTIVE TRANSPORTATION	Complete safe, convenient, and comfortable networks for facilities that make walking and biking an attractive choice by people of all ages and abilities	(1) Project completes existing gaps in pedestrian or bicycle network (2) Project increases access to transit for pedestrians or bicyclists (3) Project increases access to major destinations for pedestrians or bicyclists
4	GROW THE ECONOMY	Develop a transportation system that facilitates economic activity and draws business to the area	(1) Project increases access to employment (2) Project supports the efficient movement of freight
5	ENVIRONMENT	Minimize environmental impacts on natural resources and encourage lower-polluting transportation alternatives	(1) Project minimizes impact on natural resources
6	SUPPORT HEALTHY LIVING	Support options for exercise and healthy lifestyles to enhance the quality of life	(1) Project supports access to community amenities for bicyclists and pedestrians
7	PREPARE FOR CHANGE	Ensure that the choices being made today make sense at a time when Newport is growing and the transportation industry is rapidly changing	(1) Project supports access to a future growth area for Newport
8	FISCAL RESPONSIBILITY	Sustain an economically viable transportation system	(1) Project benefits are expected to exceed project cost

TABLE 1: RECOMMENDED EVALUATION CRITERIA			
#	GOAL	DESCRIPTION	EVALUATION CRITERIA
9	WORK WITH REGIONAL PARTNERS	Partner with other jurisdictions to plan and fund projects that better connect Newport with the region	No evaluation criteria identified

TRANSPORTATION SOLUTIONS

Newport's recommended transportation solutions, detailed below, include two types of transportation improvement strategies, resulting in four major sets of solutions for Newport:

- **Minor Roadway Improvements** which include spot motor vehicle improvements, minor roadway extensions, enhancements to the pedestrian and bicycle network, and other programmatic improvements
- **Major Roadway Improvements** which include the previously identified minor roadway improvements and one of the following major street improvement projects:
  - **US 101 Couplets**
  - **US 20 Couplet**
  - **Harney Street Extension**

Major Roadway Improvements include large-scale capital investments that could significantly alter Newport's transportation network and travel patterns. Conversely, Minor Roadway Improvements include low or medium cost capital improvements that will not significantly alter circulation patterns for vehicles in Newport. These improvements encompass the remaining transportation solutions identified for Newport and are needed even with a Major Roadway Improvement project.

The following sections summarize the evaluation of improvement options to provide early direction in developing recommended solutions for these street segments. The options consider the available right-of way and environmental constraints to ease implementation. These design options are preliminary and are subject to change. Community input and further technical analysis will ultimately lead to a recommended solution to be included in the TSP.

MINOR ROADWAY IMPROVEMENT ALTERNATIVES

The minor roadway improvement projects are solutions that do not require major capital improvements to provide benefits to Newport residents. These solutions can include pedestrian and bicycle enhancements throughout the city to support biking and walking as an alternative to driving, minor roadway capacity improvements (including at congested intersections), or minor street extensions to support local street connectivity. Bicycle and pedestrian improvements were considered at the citywide scale since these projects were developed to complete a comprehensive network for biking and walking. Other network improvements were discussed for each subarea of Newport, detailed below, since the solution strategies considered are dependent on the specific challenges facing each area.

PEDESTRIAN IMPROVEMENTS

The existing sidewalk gaps were inventoried to identify priority corridors for sidewalk infill or shared use path projects. Priority corridors were identified based on their:

- Proximity to schools
- Proximity to major destinations (*e.g.* Nye Beach, Bayfront)
- The extent of existing gaps (*i.e.* completing sidewalk infill can create a longer, more continuous pedestrian connection)
- Lack of topographical constraints

Enhanced crossing locations were also identified, as needed, to facilitate safe crossing opportunities for US 101 and US 20 based on the future sidewalk conditions for adjacent roadways.

Specific pedestrian improvements are identified for each subarea below.

BICYCLE IMPROVEMENTS

Newport's existing bicycle facilities were inventoried and used as a starting point to develop a priority bicycle network. Corridors were included in the priority bicycle network based on:

- Proximity to schools
- Proximity to major destinations (*e.g.* Nye Beach, Bayfront)
- Directness of route
- Ability to provide an off-highway connection

The functional classification and available pavement width were used to recommend bicycle treatments that were appropriate to the roadway context. Recommended treatments included:

- Separated bike facilities – treatments could include a shared use path, cycle track, separated bicycle lanes, or buffered bicycle lanes
- Bicycle lanes – treatments could include an on-street bicycle lanes without a painted buffer
- Bicycle routes – treatments could include sharrows or wayfinding with other neighborhood traffic management[1] measures as appropriate

Specific bicycle improvements for each subarea are identified below.

[1] Neighborhood traffic management treatments are document in Technical Memo #10: Transportation Standards

LOCAL STREET CONNECTIVITY IMPROVEMENTS

Improvements for the local street network, including connectivity enhancements, are not typically included as part of a TSP project list. However, as redevelopment occurs, the City should explore opportunities to enhance connectivity within neighborhoods through local street extensions. Potential connections that should be pursued may include, but are not limited to:

- Extending NE Lucky Gap Street between NE 55th Street and NE 56th Street
- Extending NE 60th Street to connect to NE Lucky Gap Street/NE 57th Street
- Extending NE 53rd Street east to connect to the vacant parcel east of NE Lucky Gap Street
- Extending a new local street connection between NE 54th Street and the vacant parcel east of NE Lucky Gap Street
- Extending a second access to the Longview Hills development. Potential options include a connection between NE Windmill Drive and NE 54th Street or a connection to the new local street network/local street extensions to serve the vacant parcel east of NE Lucky Gap Street
- Extending NE 70th Drive northeast to NE 71st Street
- Extending NE Evergreen Lane to connect to NE 70th Drive

Note all local street connections must remain within Newport's Urban Growth Boundary (UGB).

RECOMMENDED TRANSPORTATION IMPROVEMENTS

The preliminary list of projects addresses the gaps and deficiencies identified through engagement with the public and in Technical Memorandum #7 (Future Transportation System Conditions and Needs). The project list was developed by following the four-tiered identification process and through the specific considerations for bicycle and pedestrian improvements, detailed above. Specific projects were identified during the TSP planning process for the major modes of travel in Newport (motor vehicle, pedestrian, bicycle and transit) and are broken into five subareas within the City, outlined below. The TSP planning process eliminates any project that may not be feasible for reasons other than financial (such as environmental or existing development limitations).

The full list includes 74 projects and is provided in the appendix. Each project was assigned a primary source of funding for planning purposes (City, State, County, or Lincoln County Transit) although such designations do not create any obligation for funding. The project design elements depicted are identified for the purpose of creating a reasonable cost estimate for planning purposes. The actual design elements for any project are subject to change and will ultimately be determined through a preliminary and final design process and are subject to City and/or ODOT approval.

Agate Beach Improvements

Agate Beach is the most northerly neighborhood in Newport which extends from Yaquina Head to Newport's north UGB. This neighborhood is largely residential and is projected to be a key residential growth area. However, Agate Beach also includes lodging, retail, restaurants, and other tourist attractions. A new industrial area is also developing near NE 73rd Street. Key challenges facing this area include:

- Limited connectivity outside of US 101 to downtown Newport
- High delay and side street congestion during summer
- Limited bicycle and pedestrian facilities on NW Lighthouse Drive
- Limited internal roadway connections
- Existing gravel or underdeveloped roadways
- Coastal erosion and other geologic constraints

These key challenges were used to inform the transportation projects for the Agate Beach area, summarized below in Table 2 and Figure 1.

TABLE 2: RECOMMENDED PROJECTS (AGATE BEACH)

PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
INT1	US 101/NE 73rd Street			Complete an intersection control evaluation: either a traffic signal or roundabout are potential solutions
INT12	US 101/NE 57th Street			Realign approach to align with NW 58th Street
EXT1	NW Gladys Street	NW 55th Street	NW 60th Street	Extend NW Gladys Street to create a continuous neighborhood collector street
SW17	NW 60th Street	US 101	NW Gladys Street	Complete existing sidewalk gaps
SW20	NW Gladys Street/NW 55th Street	NW 60th Street	US 101	Complete existing sidewalk gaps

TABLE 2: RECOMMENDED PROJECTS (AGATE BEACH)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
SW24	NW 55th Street	NW Glady Street	NW Piney Street	Complete existing sidewalk gaps
SW26	NE Avery Street/NE 71st Street	US 101	NE Echo Court	Complete existing sidewalk gaps
TR2	US 101 (North)	NW Oceanview Drive	North UGB	Construct a shared use path on one side only. The proposed path will be located on the west side of US 101 south of NW Lighthouse Drive and on the east side of US 101 north of NW Lighthouse Drive. Sidewalk infill will be completed on the opposite side between NW 60th Street and NW Oceanview Drive. Shared use path project should be consistent with previous planning efforts (e.g., Agate Beach Historic Bicycle/Pedestrian Path, Lighthouse to Lighthouse Path). Note the specified side and project extents are subject to modification
TR5	NW Lighthouse Drive	US 101	End	Construct a shared use path on one side only and other improvements as identified by the BLM/FHWA Note pedestrian/bicycle crossing improvements may be needed at the intersection of US 101/NW Lighthouse Drive
BR10	NW 60th Street/NW Gladys Street/NW 55th Street	US 101	US 101	Install signing and striping as needed to designate a bike route through Agate Beach
BR12	NE Avery Street/NE 71st Street	US 101	NE Echo Court	Install signing and striping as needed to designate a bike route
BR16	NW 55th Street	NW Glady Street	NW Piney Street	Install signing and striping as needed to designate a bike route

TABLE 2: RECOMMENDED PROJECTS (AGATE BEACH)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
CR1	NW 60th Street/US 101			Install an enhanced pedestrian crossing
CR3	NW 55th Street/US 101			Install an enhanced pedestrian crossing
CR8	NW 68th Street/US 101			Install an enhanced pedestrian crossing
CR9	Between NW 60th Street and NW 68th Street/US 101			Install an enhanced pedestrian crossing to serve existing transit stops and RV park
CR10	NW 58th/US 101			Install an enhanced pedestrian crossing
CR11	NW 48th/US 101			Install an enhanced pedestrian crossing
CR12	NW 43rd/US 101			Install an enhanced pedestrian crossing

Note the following abbreviations correspond to different project types:

INT: Project constructs capacity improvements at an intersection

EXT: Project extends a new roadway

REV: Project changes existing traffic patterns or striping on a roadway segment

SW: Project completes existing sidewalk gaps on a roadway segment

TR: Project constructs a new shared use path for pedestrians and bicyclists

BR: Project installs a neighborhood bike route

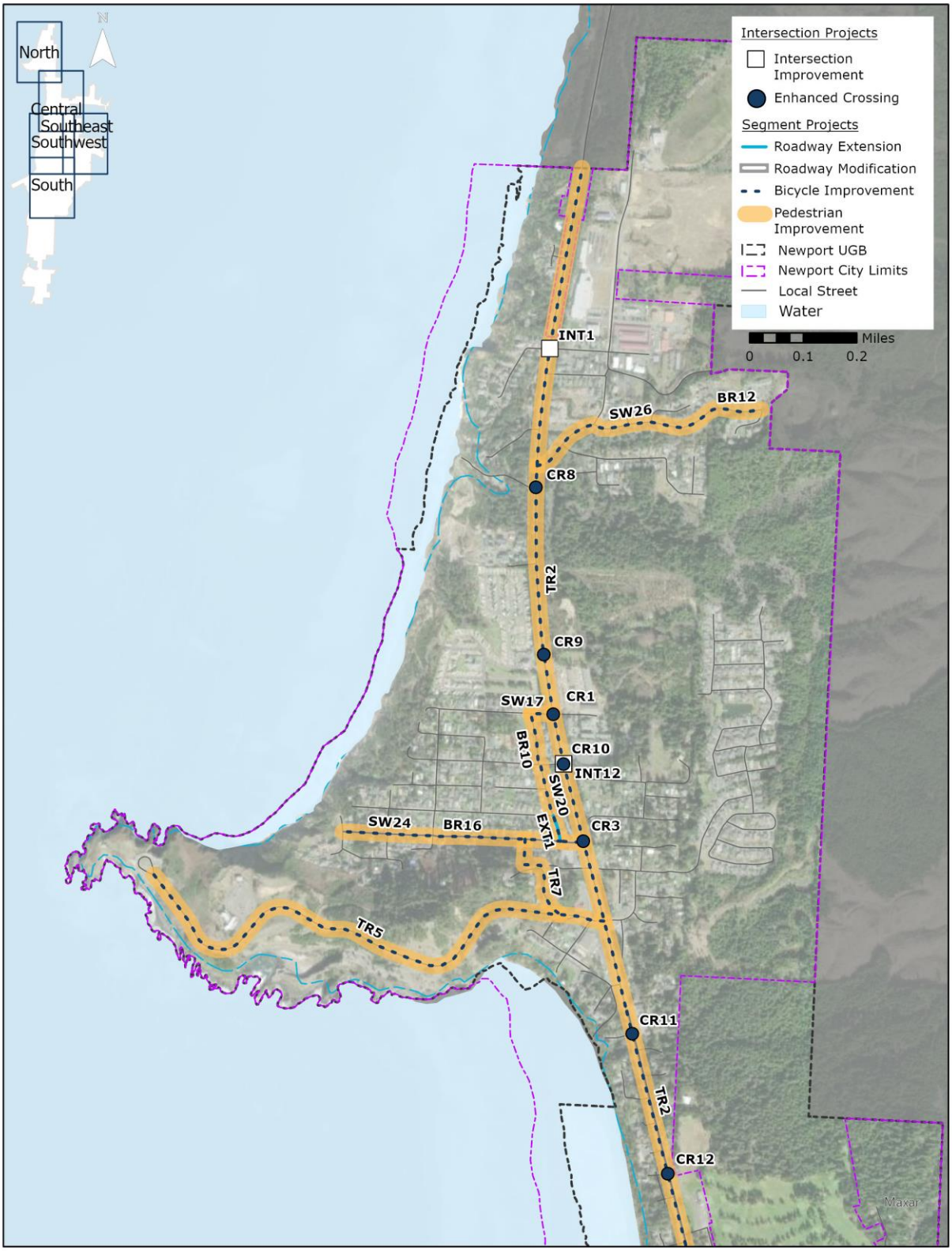
SBL: Project installs a separated bike facility

BL: Project installs on-street bike lanes

CR: Project installs an enhanced crossing for pedestrians and bicyclists

PRO: Project creates a new city program to manage the transportation system

FIGURE 1: RECOMMENDED PROJECTS (AGATE BEACH)



Oceanview/Harney Area Improvements

NW Oceanview Drive and NE Harney Street provide connections through Newport's central neighborhoods, extending from just south of Yaquina Head to the northern side of Newport's downtown. While this area is largely residential today and remains a significant residential growth area for Newport, this neighborhood also includes major retail businesses and tourist attractions. Key challenges facing this area include:

- Limited connectivity outside of US 101 to downtown Newport north of 20th Street
- High delay and side street congestion during summer
- Limited bicycle and pedestrian facilities on NW Oceanview Drive

These key challenges were used to inform the transportation projects for the Oceanview/Harney area, summarized below in Table 3 and Figure 2.

TABLE 3: RECOMMENDED PROJECTS (OCEANVIEW/HARNEY AREA)

PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
INT3	US 101/NW Oceanview Drive			Widen the eastbound NW Oceanview Drive approach to include separate left and right turn lanes
INT8	US 101/NE 36th Street			Complete an intersection control evaluation: either a traffic signal (with separate left and right turn lanes for westbound traffic) or roundabout are potential solutions
INT11	US 101/NW 6th Street			Realign intersection

TABLE 3: RECOMMENDED PROJECTS (OCEANVIEW/HARNEY AREA)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
EXT4	NE Harney Street	NE 7th Street	NE Big Creek Road	Extend NE Harney Street to a create a continuous major collector street and install a mini roundabout (i.e., roundabout with a mountable center island to accommodate school buses or large trucks) at the intersection of NE Harney Street/NE 7th Street
EXT12	NW Nye Street	NW Oceanview Drive	NW 15th Street	Extend NW Nye Street to create a continuous neighborhood collector street between NW Oceanview Drive and NW 15th Street
REV1	NE 31st Street	NE 32nd Street	NE Harney Street	Reconfigure NE 31st Street to serve pedestrians, bicycles, and emergency vehicles only Note this project is currently being refined and will only be advanced with the provision of two access points for all residents east of US 101
SW6	NE 7th Street	NE Eads Street	NE 6th Street	Complete existing sidewalk gaps
SW13	NW Nye Street	W Olive Street	NW 15th Street	Complete existing sidewalk gaps
SW14	NW/NE 11th Street	NW Spring Street	NE Eads Street	Complete existing sidewalk gaps
SW16	NW Edenview Way/NE 20th Street	NW Oceanview Drive	NE Crestview Drive	Complete existing sidewalk gaps

TABLE 3: RECOMMENDED PROJECTS (OCEANVIEW/HARNEY AREA)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
SW19	NW 8th Street/NW Spring Street	NW Coast Street	NW 11th Street	Complete existing sidewalk gaps
SW21	US 101	NW 25th Street	NW Oceanview Drive	Complete sidewalk infill on east side of US 101 only Note the specified side is subject to modification
SW25	NE Harney Street/NE 36th Street	US 101	NE Big Creek Road	Complete existing sidewalk gaps
SW27	NE 12th Street	US 101	NE Benton Street	Complete existing sidewalk gaps
TR1	NW Oceanview Drive	US 101	NW Nye Street Extension	Construct a shared use path on one side only
TR2	US 101 (North)	NW Oceanview Drive	North UGB	Construct a shared use path on one side only. The proposed path will be located on the west side of US 101 south of NW Lighthouse Drive and on the east side of US 101 north of NW Lighthouse Drive. Sidewalk infill will be completed on the opposite side between NW 60th Street and NW Oceanview Drive. Shared use path project should be consistent with previous planning efforts (e.g., Agate Beach Historic Bicycle/Pedestrian Path, Lighthouse to Lighthouse Path). Note the specified side and project extents are subject to modification

TABLE 3: RECOMMENDED PROJECTS (OCEANVIEW/HARNEY AREA)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
TR6	NE Big Creek Road	NE Fogarty Street	NE Harney Street	Construct a shared use path Note this project utilizes the existing roadway width but includes separation to designate one 12 ft. travel lane and an adjacent shared use path
TR11	NW Nye Street	NW Oceanview Drive	NW 15th Street	Construct a shared use path in coordination with BL2 and SW13. Note this project should only be constructed in the event EXT12 is not constructed
TR13	US 101	NW Oceanview Drive	NW 25th Street	Construct a shared use path on the west side of US 101 Note the specified side and project extents are subject to modification
BR1	NE 12th Street	US 101	NW Eads Street	Install signing and striping as needed to designate a bike route
BR2	NE Harney Street/NE 36th Street	NE Big Creek Road	US 101	Install signing and striping as needed to designate a bike route Note this project would be eliminate in favor of on-street bike lanes if the Harney Street extension is completed
BR3	NE Eads Street/NE 12th Street	NE 3rd Street	NE Fogarty Street	Install signing and striping as needed to designate a bike route

TABLE 3: RECOMMENDED PROJECTS (OCEANVIEW/HARNEY AREA)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
BR9	NW Edenview Way/NE 20th Street	NW Oceanview Drive	NW Crestview Drive	Install signing and striping as needed to designate a bike route Restripe through US 101/NE 20th Street intersection to provide on-street bike lanes approximately between NW Edenview Way and the eastern Fred Meyer Driveway (project removes on-street parking on one side only)
BR19	NW Oceanview Drive/NW Spring Street/NW Coast Street	NW Nye Street Extension	W Olive Street	Install signing and striping as needed to designate a bike route
BL2	NW Nye Street	NW 15th Street	SW 2nd Street	Restripe NW Nye Street to include on-street bicycle lanes (project removes on-street parking on one side only)
BL8	NW/NE 11th Street	NW Spring Street	NE Eads Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only although on-street parking may be impacted on both sides of the street between NW Lake Street and NW Nye Street)
BL11	SW 10th Street/SE 2nd Street/SE Coos Street/NE Benton Street	SW 9th Street	NE 11th Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only between NE 11th Street and US 20) Note 5 ft. bike lanes are acceptable between US 20 and SE 2nd Street

TABLE 3: RECOMMENDED PROJECTS (OCEANVIEW/HARNEY AREA)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
CR5	NW Oceanview/US 101			Install an enhanced pedestrian crossing
CR11	NW 48th/US 101			Install an enhanced pedestrian crossing
CR12	NW 43rd/US 101			Install an enhanced pedestrian crossing
CR13	Best Western Driveway/US 101			Install an enhanced pedestrian crossing
CR14	NE 17th/US 101			Install an enhanced pedestrian crossing
CR15	NW 12th/US 101			Install an enhanced pedestrian crossing
CR16	NW 8th/US 101			Install an enhanced pedestrian crossing

Note the following abbreviations correspond to different project types:

INT: Project constructs capacity improvements at an intersection

EXT: Project extends a new roadway

REV: Project changes existing traffic patterns or striping on a roadway segment

SW: Project completes existing sidewalk gaps on a roadway segment

TR: Project constructs a new shared use path for pedestrians and bicyclists

BR: Project installs a neighborhood bike route

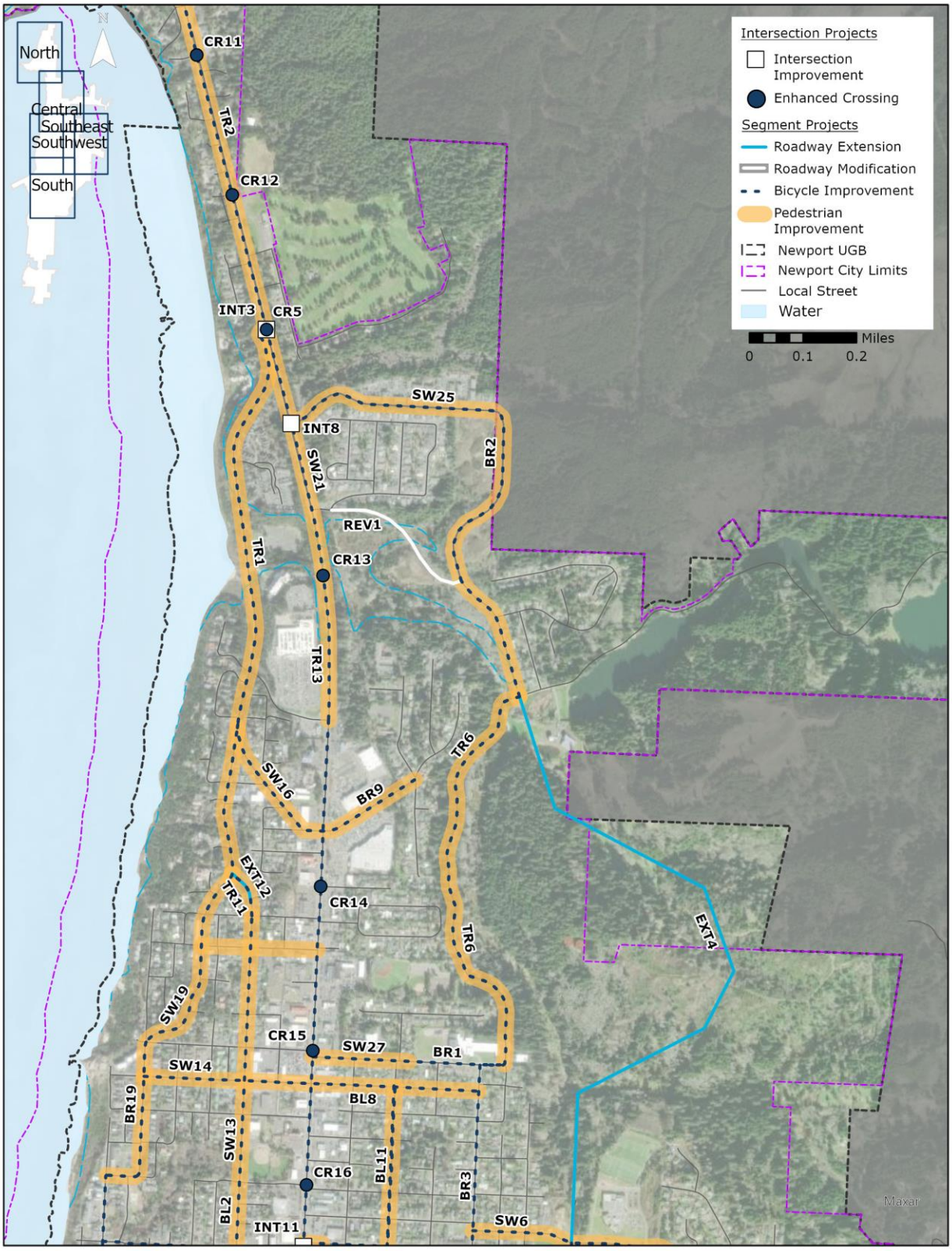
SBL: Project installs a separated bike facility

BL: Project installs on-street bike lanes

CR: Project installs an enhanced crossing for pedestrians and bicyclists

PRO: Project creates a new city program to manage the transportation system

FIGURE 2: RECOMMENDED PROJECTS (OCEANVIEW/HARNEY AREA)



Commercial Core Improvements

Newport's commercial core includes Newport's downtown area, the historic Bayfront, the southern extents of Nye Beach, the Yaquina Bay lighthouse, and adjacent land uses. This area generally features a well-connected local street network with a mix of residential, commercial, and tourist attractions. Key challenges facing this area include:

- Congestion and high side street and highway delay for both US 20 and US 101 during the summer
- Limited available right-of-way on US 101 and US 20 for future improvements
- Limited access to the hospital and businesses from US 101 and US 20 due to the congestion
- Congestion near the Newport schools
- Limited pedestrian/bicycle connectivity for alternative routes parallel to US 101
- Limited safe crossing opportunities on US 101 and US 20 for pedestrians and cyclists
- High freight volumes on Bay Boulevard with limited access to these areas from US 101 ad US 20
- Limited parking in Nye Beach and Bayfront areas
- Narrow on-street parking for US 101

These key challenges were used to inform the transportation projects for the Commercial Core area, summarized below in Table 4 and Figure 3.

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)

PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
INT4	US 101/US 20			Construct intersection improvements
INT5	US 101/SW Hurbert Street			Restripe US 101 approaches to include left turn lanes and modify signal to include protected left turn phases for US 101 (project removes on-street parking)

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
INT6	US 101/SE Moore Drive/NE Harney Street			Complete an intersection control evaluation: either a traffic signal (with separate left turn lanes on the northbound and southbound approaches) or a roundabout are potential solutions
INT7	US 101/SW Angle Street			Restripe SW Angle Street approaches to right-in/right-out only
INT10	US 20/Benton Street			Restripe northbound approach to include a right turn pocket (project removes on-street parking)
INT11	US 101/NW 6th Street			Realign intersection
EXT12	NW Nye Street	NW Oceanview Drive	NW 15th Street	Extend NW Nye Street to create a continuous neighborhood collector street between NW Oceanview Drive and NW 15th Street
REV5	Yaquina Bay Bridge Refinement Plan			Conduct a study to identify the preferred alignment of a replacement bridge, typical cross-section, implementation, and feasibility, and implement long-term recommendations from the Oregon Coast Bike Route Plan

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
SW1	NW 3rd Street	NW Brook Street	NW Nye Street	Complete existing sidewalk gaps using either standard sidewalk or restripe to provide a designated pedestrian walkway in-street
SW2	NE 3rd Street	NE Eads Street	NE Harney Street	Complete existing sidewalk gaps
SW3	SW Elizabeth Street	W Olive Street	SW Government Street	Complete existing sidewalk gaps
SW5	NE 6th Street	US 101	NE Avery Street	Complete existing sidewalk gaps (project will impact off-street parking)
SW6	NE 7th Street	NE Eads Street	NE 6th Street	Complete existing sidewalk gaps
SW8	NE Harney Street	US 20	NE 3rd Street	Complete existing sidewalk gaps
SW9	US 20	NE Fogarty Street	NE Harney Street	Complete existing sidewalk gaps
SW10	SW Abbey Street/SW Harbor Way	SW 6th Street	SW 13th Street	Complete existing sidewalk gaps. Sidewalk gaps may be completed on one side only in areas with significant topography
SW12	SW 2nd Street	SW Elizabeth Street	SW Nye Street	Complete existing sidewalk gaps
SW13	NW Nye Street	W Olive Street	NW 15th Street	Complete existing sidewalk gaps
SW14	NW/NE 11th Street	NW Spring Street	NE Eads Street	Complete existing sidewalk gaps

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
SW19	NW 8th Street/NW Spring Street	NW Coast Street	NW 11th Street	Complete existing sidewalk gaps
SW22	Yaquina Bay State Park Drive	SW Elizabeth Street	SW Naterlin Drive	Complete existing sidewalk gaps and install enhanced pedestrian crossings within the Yaquina Bay State Recreation Site Note proposed improvements should be consistent with the Yaquina Bay State Recreation Site Master Plan
SW23	SW Bay Boulevard	SE Fogarty Street	SE Moore Drive	Complete existing sidewalk gaps
SW27	NE 12th Street	US 101	NE Benton Street	Complete existing sidewalk gaps
SW28	SW Bayley Street	SW Elizabeth Street	US 101	Complete existing sidewalk gaps
TR6	NE Big Creek Road	NE Fogarty Street	NE Harney Street	Construct a shared use path Note this project utilizes the existing roadway width but includes separation to designate one 12 ft. travel lane and an adjacent shared use path
TR11	NW Nye Street	NW Oceanview Drive	NW 15th Street	Construct a shared use path in coordination with BL2 and SW13. Note this project should only be constructed in the event EXT12 is not constructed
TR12	SE 1st Street	SE Douglas Street	SE Fogarty Street	Construct a shared use path

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
BR1	NE 12th Street	US 101	NW Eads Street	Install signing and striping as needed to designate a bike route
BR3	NE Eads Street/NE 12th Street	NE 3rd Street	NE Fogarty Street	Install signing and striping as needed to designate a bike route
BR4	Yaquina Bay State Park Drive	SW Elizabeth Street	SW Naterlin Drive	Install signing and striping as needed to designate a bike route Note proposed improvements should be consistent with the Yaquina Bay State Recreation Site Master Plan
BR7	SW 2nd Street/SW Angle Street	SW Elizabeth Street	SW Nye Street	Install signing and striping as needed to designate a bike route
BR13	NW 3rd Street	US 101	NW Cliff Street	Install signing and striping as needed to designate a bike route
BR14	Yaquina Bay Bridge Interim Improvements			Install signing and striping as needed to designate a bike route and implement other improvements as identified in the Oregon Coast Bike Route Plan such as flashing warning lights or advisory speed signs
BR17	NW 6th Street	NW Coast Street	NW Nye Street	Install signing and striping as needed to designate a bike route
BR18	NE 7th Street	NE Eads Street	NE 6th Street	Install signing and striping as needed to designate a bike route

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
BR19	NW Oceanview Drive/NW Spring Street/NW Coast Street	NW Nye Street Extension	W Olive Street	Install signing and striping as needed to designate a bike route
SBL1	SE Moore Drive/NE Harney Street	SE Bay Boulevard	NE 7th Street	Restripe to install buffered bike lanes between SE Bay Boulevard and US 20; Widen to install buffered bike lanes between US 20 and NE Yaquina Heights Drive; Restripe and upgrade the existing on-street bike lanes between NE Yaquina Heights Drive and NE 7th Street (project removes on-street parking on one side only) Note: limited additional widening may be required to accommodate INT6 turn lanes
SBL2	US 101	Yaquina Bay Bridge	SW 9th Street	Construct a separated bicycle facility on US 101 Note the specified facility design and project extents are subject to review and modification
SBL3	US 101	SW 9th Street	NW 25th Street	Construct a separated bicycle facility on US 101 Note the specified facility design and project extents are subject to review and modification

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
BL1	SW Canyon Way	SW 9th Street	SW Bay Boulevard	Restripe to provide on-street bike lanes in uphill direction and mark sharrows in the downhill direction (project may convert existing angle parking near SW Bay Boulevard to parallel parking)
BL2	NW Nye Street	NW 15th Street	SW 2nd Street	Restripe NW Nye Street to include on-street bicycle lanes (project removes on-street parking on one side only)
BL4	SW 9th Street	US 101	SW Angle Street	Restripe or widen as needed to provide on-street bike lanes (project removes on-street parking) Note: this project does not assume the US 101 couplet is constructed
BL5	SW Bayley Street	US 101	SW Elizabeth Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only)
BL6	SW Hurbert Street	SW 9th Street	SW 2nd Street	Restripe to provide on-street bike lanes (existing angle parking will be converted to parallel parking on one side only)
BL7	NW/NE 6th Street	NW Nye Street	NE Eads Street	Restripe or widen as needed to provide on-street bike lanes (project removes on-street parking on one side only)

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
BL8	NW/NE 11th Street	NW Spring Street	NE Eads Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only although on-street parking may be impacted on both sides of the street between NW Lake Street and NW Nye Street)
BL9	NE 3rd Street	NE Eads Street	NE Harney Street	Widen as needed to provide on-street bike lanes
BL11	SW 10th Street/SE 2nd Street/SE Coos Street/NE Benton Street	SW 9th Street	NE 11th Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only between NE 11th Street and US 20) Note 5 ft. bike lanes are acceptable between US 20 and SE 2nd Street
BL12	SW Elizabeth Street	SW Government Street	W Olive Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only)
BL13	W Olive Street	SW Elizabeth Street	US 101	Restripe to provide on-street bike lanes (project removes on-street parking on one side only) Note project requires modification of existing curb extensions at Coast Street; on-street bike lanes may terminate prior to the US 101 intersection to provide space for turn pockets
BL14	Yaquina Bay Road	SE Moore Drive	SE Running Spring	Restripe or widen as needed to provide on-street bike lanes

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
CR2	SE Coos Street/US 20			Install an enhanced pedestrian crossing
CR4	NE Eads Street/US 20			Install an enhanced pedestrian crossing
CR7	SW Naterlin Drive/US 101			Improve pedestrian connections between Yaquina Bay Bridge and downtown Newport through pedestrian wayfinding, marked crossings, and other traffic control measures
CR14	NE 17th/US 101			Install an enhanced pedestrian crossing
CR15	NW 12th/US 101			Install an enhanced pedestrian crossing
CR16	NW 8th/US 101			Install an enhanced pedestrian crossing
CR17	SW Neff/US 101			Install an enhanced pedestrian crossing
CR18	SW Bay/US 101			Install an enhanced pedestrian crossing
CR19	SE Benton/US 20			Install an enhanced pedestrian crossing

Note the following abbreviations correspond to different project types:

INT: Project constructs capacity improvements at an intersection

EXT: Project extends a new roadway

REV: Project changes existing traffic patterns or striping on a roadway segment

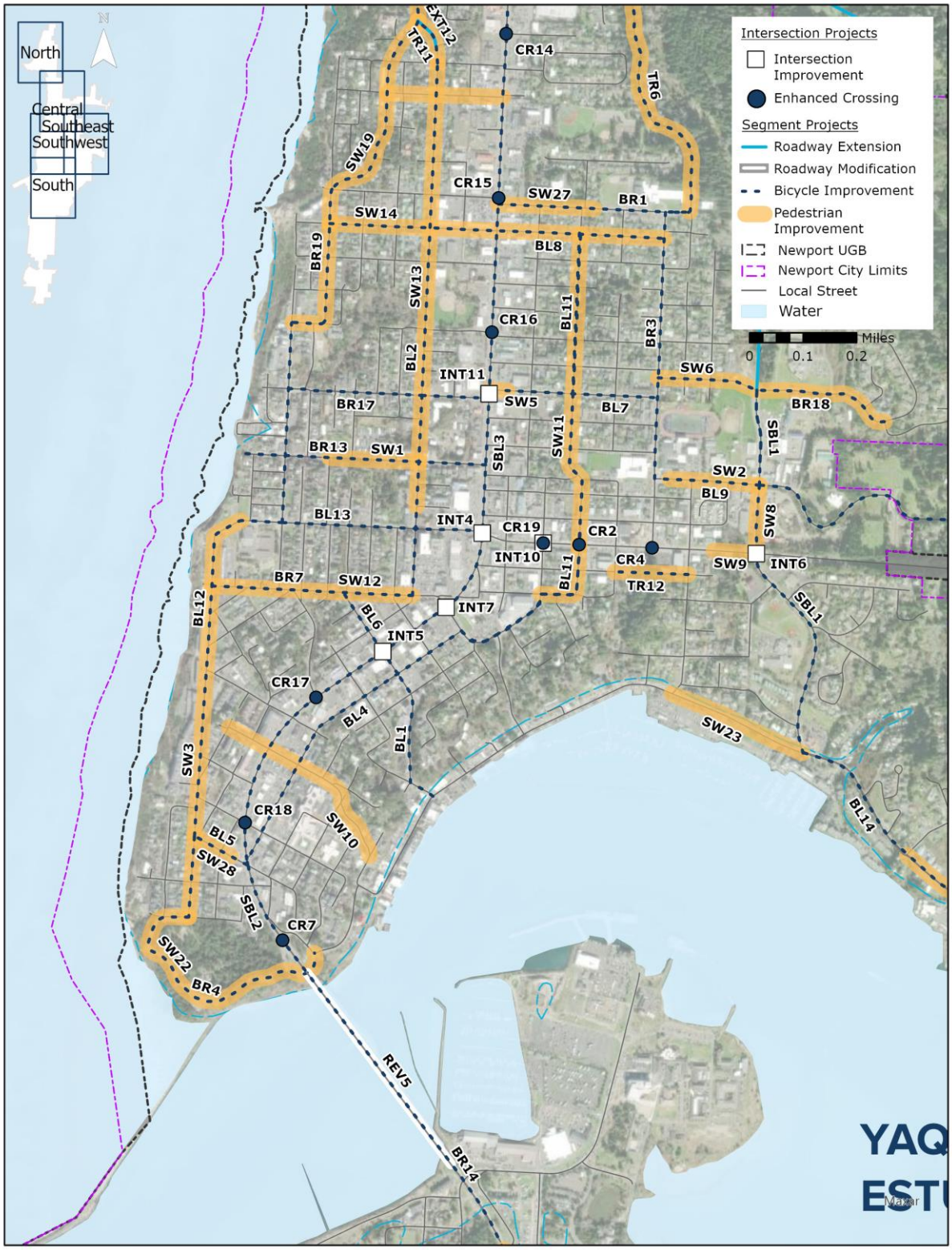
SW: Project completes existing sidewalk gaps on a roadway segment

TR: Project constructs a new shared use path for pedestrians and bicyclists

BR: Project installs a neighborhood bike route

TABLE 4: RECOMMENDED PROJECTS (COMMERCIAL CORE)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
SBL: Project installs a separated bike facility				
BL: Project installs on-street bike lanes				
CR: Project installs an enhanced crossing for pedestrians and bicyclists				
PRO: Project creates a new city program to manage the transportation system				

FIGURE 3: RECOMMENDED PROJECTS (COMMERCIAL CORE)



Alternatives Evaluation for US 101/US 20 Intersection

The downtown commercial core includes the US 101/US 20 intersection which will experience high delay in the future without any improvements. High conflicting volumes on each approach limit the potential signal timing modifications which could be applied to manage congestion at this location without any roadway expansion. Several traffic management or design alternatives were considered for this location including:

- Adopting alternate mobility targets (*i.e.*, allowing a greater level of vehicle congestion at this location)
- Widening to construct a second southbound left turn lane and extending an additional eastbound receiving lane east to SE Benton Street
- Constructing a two-lane roundabout with northbound and westbound right turn bypass lanes
- Restricting Olive Street to westbound traffic only between Nye Street and US 101, rerouting eastbound Olive Street traffic to Angle Street, and upgrading the Angle Street/US 101 intersection to a signal

A comparison of these strategies is summarized below in Table 5. Each alternative was analyzed using Summer 2040 volumes, corresponding to 30th highest hour traffic volumes, except for the alternate mobility target which considered Average Weekday 2040 volumes. Adopting alternate mobility targets or travel demand management programs in coordination with each of the intersection alternatives could make each of these options feasible.

Traffic could also be managed at this intersection by adding signage to direct westbound right turning traffic to NE 1st Street as an alternative to the US 101/US 20 traffic signal in conjunction with improvements to carry the additional traffic on this street. Although diversion through the neighborhood immediately north of US 20 will likely occur by 2040 without explicit signage, adding signage can provide a designated alternate route for tourists and better manage the system capacity. Providing signage is expected to provide a modest benefit to traffic operations at US 101/US 20 although additional improvements will be needed.

TABLE 5: COMPARISON OF ALTERNATIVES FOR US 101/US 20 INTERSECTION					
ALTERNATIVE	**INTERSECTION CONFIGURATION**	**MOBILITY TARGET**	**VOLUME/ CAPACITY RATIO**	**PROS**	**CONS**
NO BUILD (BASELINE SUMMER 2040)		0.85	**0.99**	• No cost	• Does not mitigate congestion
OPTION 1: **ALTERNATE MOBILITY TARGETS (BASELINE AVERAGE WEEKDAY 2040)**		0.85	**0.91**	• No cost	• Does not mitigate congestion

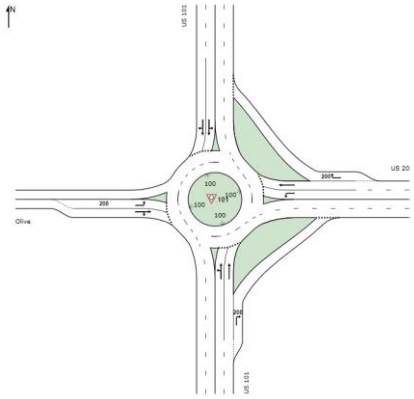
TABLE 5: COMPARISON OF ALTERNATIVES FOR US 101/US 20 INTERSECTION					
ALTERNATIVE	**INTERSECTION CONFIGURATION**	**MOBILITY TARGET**	**VOLUME/ CAPACITY RATIO**	**PROS**	**CONS**
OPTION 2: **ADDITIONAL SOUTHBOUND LEFT TURN LANE**		0.85	**0.90**		• Increases pedestrian crossing distance • Does not mitigate congestion • High cost • Potential for lane imbalances between for the dual left turn lanes
OPTION 3: TWO-LANE ROUNDABOUT		0.85	**0.91**	• Calms Traffic • Reduces conflict points • Reduces pedestrian crossing distance	• Does not mitigate congestion • High cost • Significant right-of-way or property impacts • Potential challenges with Heavy Truck or RV turning movements

TABLE 5: COMPARISON OF ALTERNATIVES FOR US 101/US 20 INTERSECTION

ALTERNATIVE	INTERSECTION CONFIGURATION	MOBILITY TARGET	VOLUME/ CAPACITY RATIO	PROS	CONS
OPTION 4: **RESTRICT OLIVE STREET TO WESTBOUND TRAFFIC AND INSTALL A TRAFFIC SIGNAL AT ANGLE STREET**		US 101 & US 20: 0.85 ---- US 101 & Angle Street: 0.85 ---- US 101 & Hurbert Street: 0.85 ---- US 20 & Benton Street: 0.85/0.95	US 101 & US 20: **0.93*** **----** US 101 & Angle Street: 0.78 ---- US 101 & Hurbert Street: 0.54 ---- US 20 & Benton Street: 0.39/0.67	• Medium Cost • Reduces pedestrian crossing distance on one leg • Signalizes pedestrian/ bicycle crossing at Angle Street	• Eliminates eastbound movement along Olive Street. • Does not mitigate congestion

Note: **bolded** values indicate a location exceeds its mobility target

*Converting the proposed westbound through lane to a shared westbound through/left turn lane has the potential to further improve intersection operations, but this configuration cannot be analyzed using Synchro's implementation of Highway Capacity Manual 6th Edition's methodology for intersection capacity analysis.

One variation on Option 4 could be to reroute eastbound traffic on Olive Street to the north and install a new traffic signal at 3rd Street rather than Angle Street. This option would mitigate impacts to the planned expansion of Newport's City Hall and would likely operate similar to Option 4 at the US 101/US 20 intersection. However, additional analysis would be required if this option is advanced through the alternatives evaluation process.

East Newport Improvements

The East Newport neighborhood includes the existing residential and industrial areas between NE Harney Street/SE Moore Drive and Newport's eastern UGB. Key challenges facing this area include:

- Congestion at the US 20/NE Harney Street/SE Moore Drive intersection
- Existing gaps in the pedestrian/bicycle network on NE Harney Street between US 20 and NE 3rd Street
- Limited north-south connectivity between Yaquina Bay Road, US 20, and Yaquina Heights Drive
- Congestion near Newport's schools

These key challenges were used to inform the transportation projects for the East Newport area, summarized below in Table 6 and Figure 4.

TABLE 6: RECOMMENDED PROJECTS (EAST NEWPORT)

PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
INT6	US 101/SE Moore Drive/NE Harney Street			Complete an intersection control evaluation: either a traffic signal (with separate left turn lanes on the northbound and southbound approaches) or a roundabout are potential solutions
EXT3	NE 6th Street	NE 6th Street	NE Yaquina Heights Drive	Extend NE 6th Street to create a continuous neighborhood collector
EXT4	NE Harney Street	NE 7th Street	NE Big Creek Road	Extend NE Harney Street to a create a continuous major collector street and install a mini roundabout (i.e., roundabout with a mountable center island to accommodate school buses or large trucks) at the intersection of NE Harney Street/NE 7th Street
SW2	NE 3rd Street	NE Eads Street	NE Harney Street	Complete existing sidewalk gaps

TABLE 6: RECOMMENDED PROJECTS (EAST NEWPORT)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
SW6	NE 7th Street	NE Eads Street	NE 6th Street	Complete existing sidewalk gaps
SW9	US 20	NE Fogarty Street	NE Harney Street	Complete existing sidewalk gaps
SW23	SW Bay Boulevard	SE Fogarty Street	SE Moore Drive	Complete existing sidewalk gaps
SW30	Yaquina Bay Road	SE Vista Drive	SE Running Spring	Complete existing sidewalk gaps on north side only
BR18	NE 7th Street	NE Eads Street	NE 6th Street	Install signing and striping as needed to designate a bike route
SBL1	SE Moore Drive/NE Harney Street	SE Bay Boulevard	NE 7th Street	Restripe to install buffered bike lanes between SE Bay Boulevard and US 20; Widen to install buffered bike lanes between US 20 and NE Yaquina Heights Drive; Restripe and upgrade the existing on-street bike lanes between NE Yaquina Heights Drive and NE 7th Street (project removes on-street parking on one side only) Note: limited additional widening may be required to accommodate INT6 turn lanes
BL9	NE 3rd Street	NE Eads Street	NE Harney Street	Widen as needed to provide on-street bike lanes
BL10	NE Yaquina Heights Drive	NE Harney Street	US 20	Widen as needed to provide on-street bike lanes
BL14	Yaquina Bay Road	SE Moore Drive	SE Running Spring	Restripe or widen as needed to provide on-street bike lanes

TABLE 6: RECOMMENDED PROJECTS (EAST NEWPORT)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	

Note the following abbreviations correspond to different project types:

INT: Project constructs capacity improvements at an intersection

EXT: Project extends a new roadway

REV: Project changes existing traffic patterns or striping on a roadway segment

SW: Project completes existing sidewalk gaps on a roadway segment

TR: Project constructs a new shared use path for pedestrians and bicyclists

BR: Project installs a neighborhood bike route

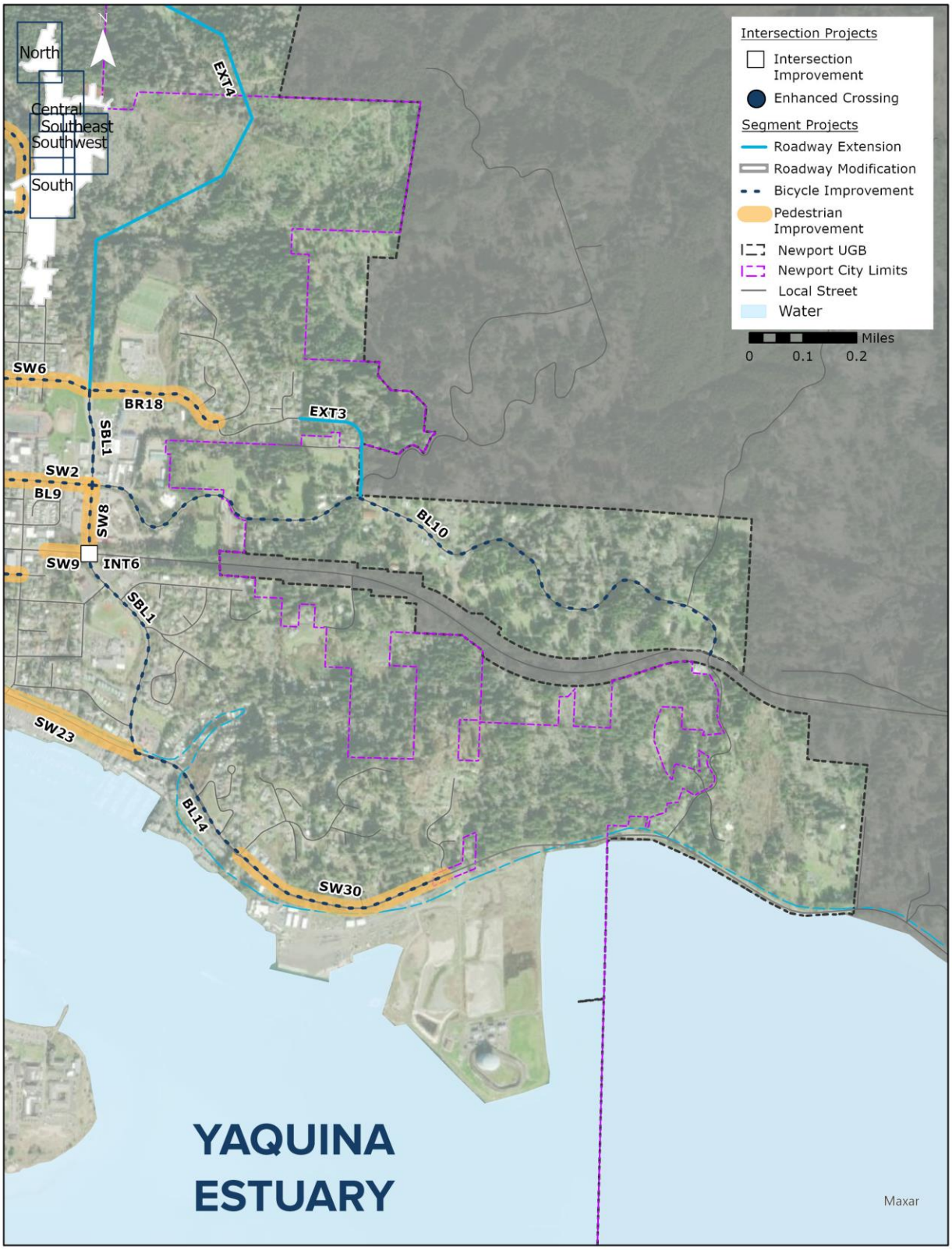
SBL: Project installs a separated bike facility

BL: Project installs on-street bike lanes

CR: Project installs an enhanced crossing for pedestrians and bicyclists

PRO: Project creates a new city program to manage the transportation system

FIGURE 4: RECOMMENDED PROJECTS (EAST NEWPORT)



South Beach Improvements

Newport's South Beach neighborhood includes all areas of Newport located south of the Yaquina Bay Bridge. Most existing development is located to the north of SE 40th Street and is a mix of residential neighborhoods, recreation, employment, and industrial areas.

The transportation projects for the South Beach area were developed based on improvements identified in Newport's 2012 TSP update which focused on the South Beach area. Projects identified from this plan and any refinements completed for this plan are summarized below in Table 7 and Figure 5.

TABLE 7: RECOMMENDED PROJECTS (SOUTH BEACH)

PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
INT9	US 101/SW 40th Street			Complete an intersection control evaluation: either a traffic signal or roundabout are potential solutions
EXT7	SW 35th Street	SW Abalone Street	SE Ferry Slip Road	Extend SW 35th Street to create a continuous major collector street and construct a shared use path on one side only
EXT8	SE Ash Street	SE 40th Street	SE 42nd Street	Extend SE Ash Street to create a continuous major collector street
EXT9	SE 50th Street	US 101	SE 50th Place	Realign SE 50th Street south to create a continuous major collector street between the existing alignment and the entrance to South Beach State Park and construct a shared use path on one side only
EXT10	SE 62nd Street	End	SE 50th Street	Extend SE 62nd Street north to create a continuous major collector street between the existing terminus and SE 50th Street and construct a shared use path on one side only

TABLE 7: RECOMMENDED PROJECTS (SOUTH BEACH)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
EXT11	SE 50th Street	SE 62nd Street	SE Harborton Street	Extend SE 50th Street to create a continuous major collector street between the SE 50th/SE 62nd intersection and SE Harborton Street and construct a shared use path on one side only
REV5	Yaquina Bay Bridge Refinement Plan			Conduct a study to identify the preferred alignment of a replacement bridge, typical cross-section, implementation, and feasibility, and implement long-term recommendations from the Oregon Coast Bike Route Plan
SW18	SE 35th Street	SE Ferry Slip Road	South Beach Manor Memory Care	Complete existing sidewalk gaps on north side only
SW22	Yaquina Bay State Park Drive	SW Elizabeth Street	SW Naterlin Drive	Complete existing sidewalk gaps and install enhanced pedestrian crossings within the Yaquina Bay State Recreation Site Note proposed improvements should be consistent with the Yaquina Bay State Recreation Site Master Plan
SW29	US 101	SE Pacific Way	SW 35th Street	Complete existing sidewalks gaps Note this project is currently being constructed

TABLE 7: RECOMMENDED PROJECTS (SOUTH BEACH)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
TR3	US 101 (South)	SE 35th Street	South UGB	Construct a shared use path on the west side of US 101 and complete existing sidewalk gaps on east side of US 101 Note the specified side and project extents are subject to modification Note sidewalk on the east side of US 101 between SE 35th Street and SE Ferry Slip Road is currently being constructed
TR9	SE 40th Street	US 101	SE Harborton Street	Construct a shared use path on one side only to complete existing gap
TR14	SW Abalone Street	US 101	SW Abalone Street	Construct a shared use path on the south side of SW Abalone Street
BR4	Yaquina Bay State Park Drive	SW Elizabeth Street	SW Naterlin Drive	Install signing and striping as needed to designate a bike route Note proposed improvements should be consistent with the Yaquina Bay State Recreation Site Master Plan
BR14	Yaquina Bay Bridge Interim Improvements			Install signing and striping as needed to designate a bike route and implement other improvements as identified in the Oregon Coast Bike Route Plan such as flashing warning lights or advisory speed signs
SBL2	US 101	Yaquina Bay Bridge	SW 9th Street	Construct a separated bicycle facility on US 101 Note the specified facility design and project extents are subject to review and modification

TABLE 7: RECOMMENDED PROJECTS (SOUTH BEACH)				
PROJECT ID	LOCATION	EXTENTS		DESCRIPTION
		FROM	TO	
SBL4	US 101	Yaquina Bay Bridge	SE 35th Street	Construct a separated bicycle facility on US 101 Note the specified facility design and project extents are subject to review and modification
CR6	SE 32nd Street/US 101			Install an enhanced pedestrian crossing
CR7	SW Naterlin Drive/US 101			Improve pedestrian connections between Yaquina Bay Bridge and downtown Newport through pedestrian wayfinding, marked crossings, and other traffic control measures

Note the following abbreviations correspond to different project types:

INT: Project constructs capacity improvements at an intersection

EXT: Project extends a new roadway

REV: Project changes existing traffic patterns or striping on a roadway segment

SW: Project completes existing sidewalk gaps on a roadway segment

TR: Project constructs a new shared use path for pedestrians and bicyclists

BR: Project installs a neighborhood bike route

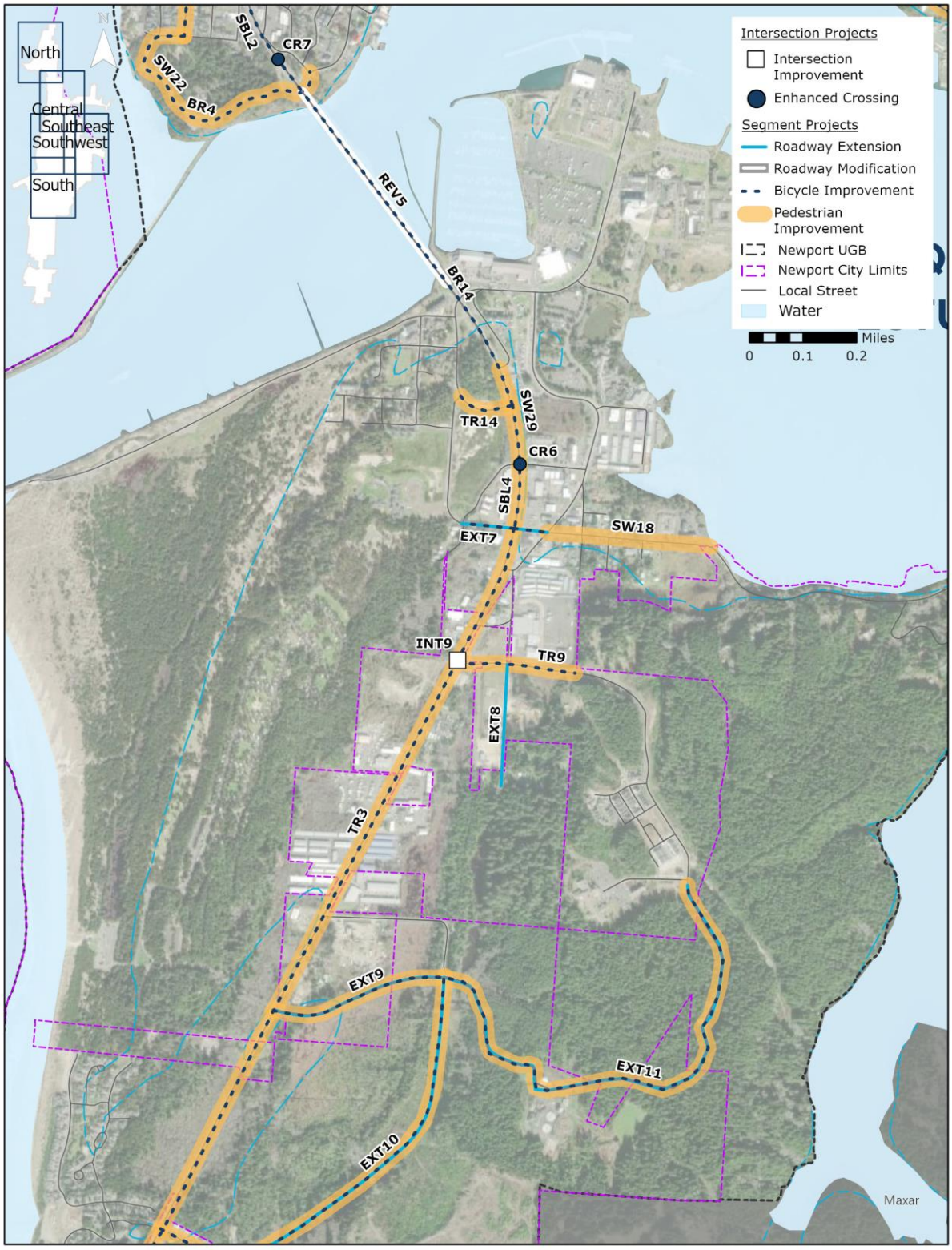
SBL: Project installs a separated bike facility

BL: Project installs on-street bike lanes

CR: Project installs an enhanced crossing for pedestrians and bicyclists

PRO: Project creates a new city program to manage the transportation system

FIGURE 5: RECOMMENDED PROJECTS (SOUTH BEACH)



Programmatic Improvements

In addition to the citywide improvements, programmatic strategies were also identified to support improved transportation system operations within Newport. These programmatic recommendations are summarized below in Table 8. Since these programmatic strategies are citywide in nature, these improvements are not shown on any particular map.

TABLE 8: RECOMMENDED PROJECTS (CITYWIDE)

PROJECT ID	LOCATION	DESCRIPTION
PRO1	Parking Management	Implement additional parking management strategies for the Nye Beach and Bayfront Areas. Strategies could include metering, permits, or other time restrictions
PRO2	Transportationd Demand Management	Implement strategies to enhance transit use in Newport. Specific strategies could include public information, stop enhancements, route refinement, or expanded service hours
PRO3	Neighborhood Traffic Management	Implement a neighborhood traffic management program Note: specific considerations for neighborhood traffic management treatments are outlined in Technical Memo #10: Transportation Standards
PRO4	Yaquina Bay Ferry Service	Implement a foot ferry for bicyclists and pedestrians across Yaquina Bay

Note the following abbreviations correspond to different project types:

INT: Project constructs capacity improvements at an intersection

EXT: Project extends a new roadway

REV: Project changes existing traffic patterns or striping on a roadway segment

SW: Project completes existing sidewalk gaps on a roadway segment

TR: Project constructs a new shared use path for pedestrians and bicyclists

BR: Project installs a neighborhood bike route

SBL: Project installs a separated bike facility

BL: Project installs on-street bike lanes

CR: Project installs an enhanced crossing for pedestrians and bicyclists

PRO: Project creates a new city program to manage the transportation system

MINOR ROADWAY IMPROVEMENT ALTERNATIVE TRANSPORTATION PERFORMANCE

The intersection improvements identified as part of the minor roadway improvement alternatives were tested in Synchro to assess their operations performance relative to the future system baseline. Operations results are summarized below in Table 9 for locations that exceed their mobility target under the baseline conditions only. Full operational results are provided in the appendix.

The minor roadway improvement alternatives resolved operational issues at most study intersections, although three intersections are still expected to exceed their mobility target in summer 2040 traffic conditions, including:

- US 101/Oceanview: this intersection is expected to be at its mobility target under summer 2040 traffic conditions. Adopting an alternate mobility target for this intersection based on average weekday traffic conditions could also be considered at this location.
- US 101/US 20: several alternatives, including an alternate mobility target, have been considered for this intersection. These solutions result in a v/c ratio between 0.91 and 0.93. While these options still exceed the mobility target, these operations are consistent with operations under existing summer traffic conditions. Implementing one of these solutions in conjunction with an alternate mobility target could be considered at this location.
- US 101/Angle: high traffic volumes on US 101 significantly delay left turn and through vehicles on Angle Street under summer 2040 traffic conditions. The proposed solution does not change left turn or through traffic operations at this intersection, but it does provide an operational benefit for right turning traffic. The existing grid system in downtown Newport provides opportunities for left turn or through traffic to access US 101 at adjacent signals, so more restrictive measures are not recommended for this location. Adopting an alternate mobility target for this intersection based on average weekday traffic conditions could also be considered at this location.

Alternate mobility targets increase the acceptable level of congestion at specific intersections rather in lieu of a capital project. As part of the 2012 South Beach TSP, alternate mobility targets were adopted for intersections on US 101 in South Beach. For a location with high seasonal traffic demands, adopting alternate mobility targets would increase the acceptable level of congestion during peak travel months. Existing traffic volume data for Newport indicates that seasonal summer traffic occurs between May and September, so adopting alternate mobility targets would permit increased vehicle traffic delay on state highway facilities for nearly half of the year.

TABLE 9: COMPARISON OF SUMMER 2040 OPERATIONAL RESULTS WITH AND WITHOUT MINOR ROADWAY IMPROVEMENTS

#	STUDY INTERSECTION	INTERSECTION CONTROL	MOBILITY TARGET	BASELINE SUMMER – 2040: V/C RATIO	SOLUTION STRATEGY	MINOR ROADWAY IMPROVEMENTS SUMMER – 2040: V/C RATIO
1	US 101/73rd	Urban 4ST	0.8/0.90	**0.55/1.57**	Complete an intersection control evaluation: either a traffic signal or roundabout are potential solutions Note: the minor roadway improvements alternative assumes a traffic signal is constructed	0.75
2	US 101/52nd*	Urban 4SG	0.8	**0.89**	Implement an alternate mobility target based on the average weekday condition	0.78
3	US 101/Oceanview	Urban 3ST	0.8/0.90	**0.72/1.12**	Widen the eastbound NW Oceanview Drive approach to include separate left and right turn lanes	**0.72/0.9**
9	US 101/US 20	Urban 4SG	0.85	**0.99**	See Table 5	**0.91 to 0.93** - See Table 5
10	US 101/Angle	Urban 4ST	0.90/0.95	**0.49/>2.00**	Restripe SW Angle Street approaches to right-in/right-out only	0.38/0.31
11	US 101/Hurbert	Urban 4SG	0.9	**0.90**	Restripe US 101 approaches to include left turn lanes and modify signal to include protected left turn phases for US 101 (project removes on-street parking)	0.55
13	US 20/Benton	Urban 4ST	0.85/0.95	**0.46/1.05**	Restripe northbound approach to include a right turn pocket (project removes on-street parking)	0.43/0.53

TABLE 9: COMPARISON OF SUMMER 2040 OPERATIONAL RESULTS WITH AND WITHOUT MINOR ROADWAY IMPROVEMENTS

#	STUDY INTERSECTION	INTERSECTION CONTROL	MOBILITY TARGET	BASELINE SUMMER – 2040: V/C RATIO	SOLUTION STRATEGY	MINOR ROADWAY IMPROVEMENTS SUMMER – 2040: V/C RATIO
14	US 20/Moore	Urban 4SG	0.85	**0.85**	Complete an intersection control evaluation: either a traffic signal (with separate left turn lanes on the northbound and southbound approaches) or a roundabout are potential solutions Note: the minor roadway improvements alternative assumes turn lanes are constructed	0.63

Note: **bolded** values indicate a location exceeds its mobility target

*Reported using HCM 2000

MAJOR ROADWAY IMPROVEMENT ALTERNATIVES

Limited local street connectivity in Newport along with a heavy seasonal traffic demand is projected to create unacceptable congestion by 2040 during the PM peak period for both US 101 and US 20. The major roadway improvement alternatives were designed to mitigate congestion on these corridors by increasing roadway capacity and constructing enhanced bicycle and pedestrian facilities.

COMMERCIAL CORE ALTERNATIVES – US 101 COUPLETS

The existing alignment and design of US 101 in downtown Newport creates significant challenges for the city, including:

- Congestion due to high vehicle volumes
- Significant delay at the US 101/US 20 intersection
- Limited access to local businesses and the hospital due to high delay for side streets
- Narrow on-street parking
- No existing bike facilities
- Limited pedestrian facilities
- Limited economic development opportunities in downtown core compared to other city districts (*e.g.* Nye Beach)

A couplet on US 101 was one solution identified to address some of the existing deficiencies of US 101 through Newport. Both a short and long couplet alternative were identified as candidate treatments; the extents of these couplets and potential project impacts are identified on the

following figures. The short couplet alternative extends from SW Fall Street to SW Angle Street while the long couplet alternative extends from SW Abbey Street to SW Angle Street. A review of these alternatives identified the following opportunities and constraints for the short and long couplet alternatives:

- The US 101 couplet appears to fix existing operational issues along portions of US 101 but will likely require additional intersection improvements for SW 9th Street (see below)
- Converting the US 101 alignment to one-way southbound will significantly reduce vehicle delay at the US 101/SW Hurbert Street signal by eliminating the existing split phasing
- Northbound traffic on US 101 that intends to travel east on US 20 is more likely to bypass the US 101/US 20 intersection with development of the couplet, instead turning right at NE Benton Street
- Creating new highway couplets can be an economic redevelopment tool by increasing the available commercial frontage along the highway and better utilizing the exiting street space to safely accommodate all modes of travel
- The proposed cross-sections for US 101 and SW 9th Street alignments should include significant enhancements for bicyclists and pedestrians
- Couplet termini:
    - The current geometry of the US 101/SW 9th Street intersection is well-designed to transition northbound traffic to SW 9th Street with minimal, if any, impacts to existing businesses. However, the recent hospital expansion includes parking access to SW 9th Street and SW Bay Street which would be impacted for southbound traffic if SW 9th Street is converted to one-way.
    - Beginning a couplet further north (*i.e.* at the SW Fall Street intersection) would mitigate the impacts to the hospital access, but would result in significantly higher right-of-way impacts
    - The US 101/SW Angle Street intersection is one option for the northern couplet terminus. This option would convert SW Angle Street to one-way between US 101 and SW 9th Street. Potential impacts could include:
        - Remove the existing angled on-street parking on one side or convert both sides to parallel parking
        - Shorten or remove the existing curb extensions on SW Angle Street at SW 9th Street and US 101
        - Remove off-street parking or open space areas if SW Angle Street is realigned to provide a smoother transition for US 101

Intersection operations for all study intersections located on the US 101 couplet were evaluated to identify spot improvements that would be needed in conjunction with implementation; these results are summarized in Table 10. Due to the potential for diversion of northbound traffic to the US 20/Benton Street intersection, operational results for this intersection are also included in Table 10. All operational deficiencies resulting from construction of the US 101 couplet are tied to existing two-way stop control intersections where higher traffic volumes lead to increased side street delay. Restricting parking adjacent to these intersections and restriping the approaches to include separate turn lanes can mitigate some of these operational deficiencies although alternate mobility targets could also be considered.

TABLE 10: COMPARISON OF SUMMER 2040 OPERATIONAL RESULTS WITH AND WITHOUT US 101 COUPLET							
#	STUDY INTERSECTION	INTERSECTION CONTROL	MOBILITY TARGET	BASELINE SUMMER – 2040: V/C RATIO	US 101 LONG COUPLET SUMMER – 2040: V/C RATIO	SOLUTION STRATEGY	US 101 LONG COUPLET WITH RECOMMENDED SOLUTIONS: V/C RATIO
10	US 101/Angle	Urban 4ST	0.90/0.95	**0.49/ >2.00**	0.38/0.06	N/A	0.38/0.06
11	US 101/Hurbert	Urban 4SG	0.9	**0.90**	0.54	N/A	0.54
12	US 101/Bayley	Urban 4ST	0.90/0.95	0.41/0.79	**0.39/1.42***	Restripe eastbound and westbound approaches to provide right turn lanes (project removes on-street parking)	**0.39/1.11***
13	US 20/Benton	Urban 4ST	0.85/0.95	**0.46/1.05**	0.22/0.64	N/A	0.22/0.64
18	Hurbert/9th	Urban 4ST	0.95/0.95	0.06/0.44	**0.48/1.23**	Restripe eastbound approach to provide a left turn lane and restripe westbound approach to provide a right turn lane (project removes on-street parking)	**0.48/1.03**
19	Abbey/9th	Urban 4ST	0.95/0.95	0.09/0.23	**0.41/1.35***	Restripe eastbound approach to provide a left turn lane and restripe westbound approach to provide a right turn lane (project removes on-street parking)	0.41/0.94*

Note: **bolded** values indicate a location exceeds its mobility target

*Intersection operations would likely not be impacted under the short couplet alternative

FIGURE 6: DOWNTOWN CIRCULATION OPTION 1 – US 101 LONG COUPLET

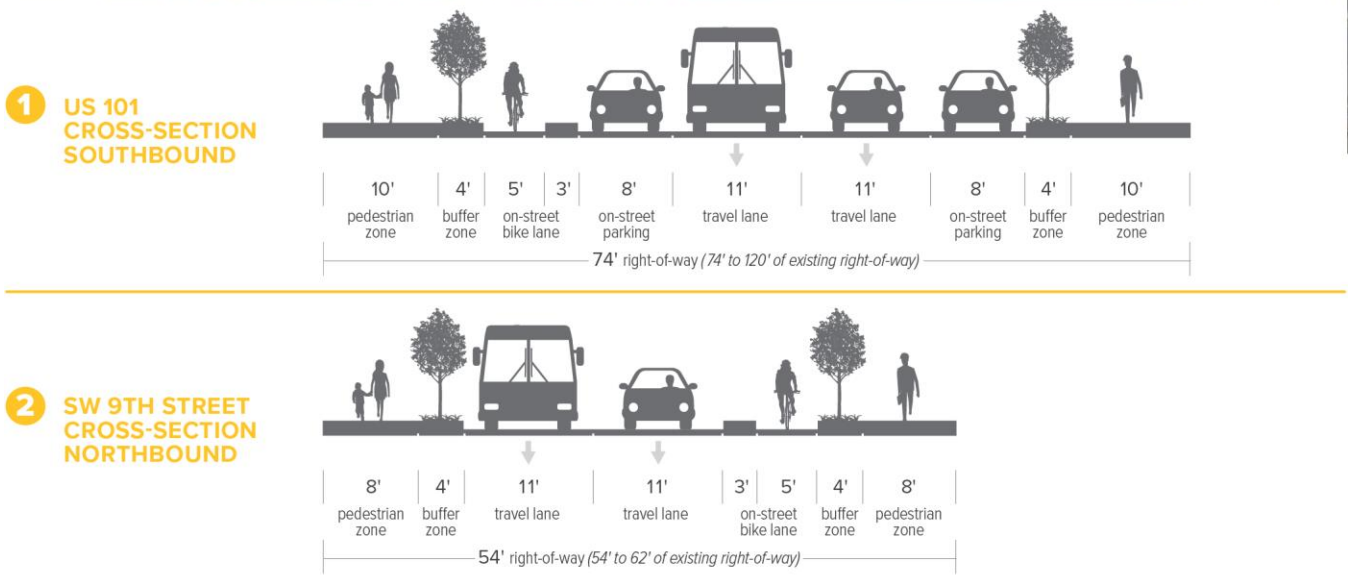
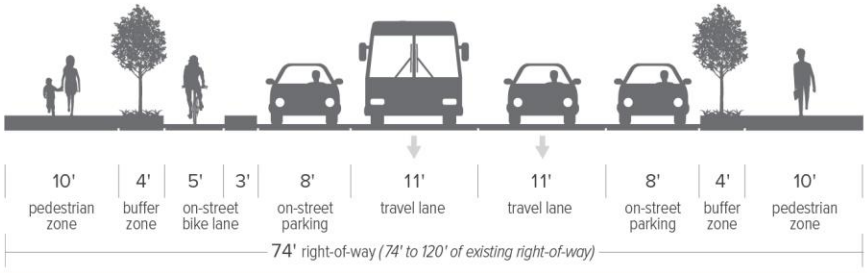
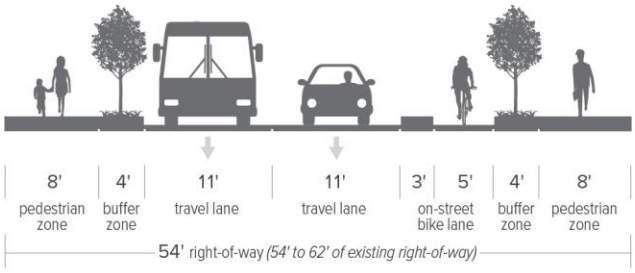


FIGURE 7: DOWNTOWN CIRCULATION OPTION 2 – US 101 SHORT COUPLET





COMMERCIAL CORE ALTERNATIVES – US 20 COUPLET

The existing alignment and design of US 20 in downtown Newport creates significant challenges for the city, including:

- Congestion due to high vehicle volumes
- Significant delay at the US 101/US 20 intersection
- Limited access to local businesses due to high delay for side streets
- Limited available right-of-way for future expansions
- No existing bike facilities
- Limited pedestrian facilities
- Limited economic development opportunities in downtown core compared to other city districts (*e.g.* Nye Beach)

A couplet on US 20 was one solution identified to address some of the existing deficiencies of US 20 through Newport. The proposed couplet will extend between Moore Drive and US 101. A review of this alternative identified the following opportunities and constraints for the US 20 couplet alternative:

- The US 20 couplet appears to fix existing operational issues along US 20 and US 101; however, the intersection of US 101/US 20 will require additional improvements
- Even with the US 20 couplet, recommended improvements at NE Harney Street and SE Moore Drive should still be made.
- Completing the US 20 couplet reduces vehicle diversion in neighborhoods to the north of US 20 since the proposed couplet will add capacity for westbound traffic
- Creating new highway couplets can be an economic redevelopment tool by increasing the available commercial frontage along the highway and better utilizing the exiting street space to safely accommodate all modes of travel
- The new cross-sections for US 20 couplet should include significant enhancements for bicyclists and pedestrians
- Couplet termini:
    - Beginning the couplet immediately west of the NE Harney Street/SE Moore Drive intersection minimizes the property impacts and new roadway construction needed.
    - Maintaining the current US 101/US 20 intersection location would require that westbound US 20 is shifted back to the current US 20 alignment prior to the intersection which would result in significant property impacts. This tie-in option would also not improve operations for the US 101/US 20 intersection

Intersection operations for all study intersections located on the US 20 couplet were evaluated to identify spot improvements that would be needed in conjunction with implementation; these results are summarized in Table 11. Operational issues related to construction of the US 20 couplet are expected at the existing traffic signals at US 101 and NE Harney Street/SE Moore Drive. Congestion near the US 101/US 20 intersection can be relieved by providing dual westbound left and right turn lanes when the westbound couplet approach is reconstructed in conjunction with signal modifications that allow for a westbound right turn overlap phase. In lieu of these dual turn lanes, previously identified solution strategies for the US 101/US 20 intersection could be applied to better manage traffic congestion with completion of the US 20 couplet. Most of the congestion at the NE Harney Street/SE Moore Drive intersection will be alleviated by completing the previously

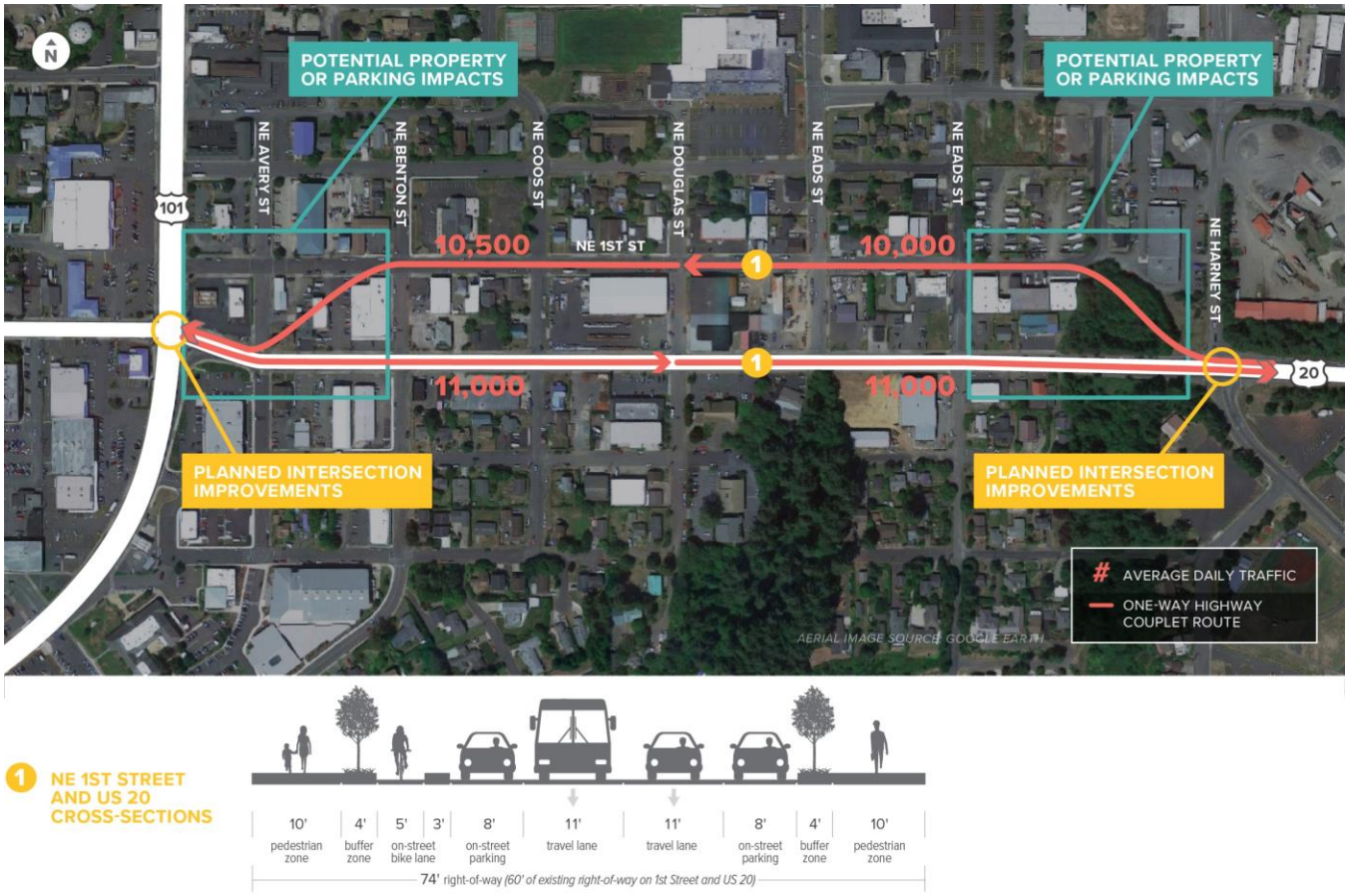
identified spot improvement at this intersection (INT6). However, restriping the westbound right turn lane to a shared through/right turn lane will also increase the capacity of this intersection.

TABLE 11: COMPARISON OF SUMMER 2040 OPERATIONAL RESULTS WITH AND WITHOUT US 20 COUPLET

#	STUDY INTERSECTION	INTERSECTION CONTROL	MOBILITY TARGET	BASELINE SUMMER – 2040: V/C RATIO	US 20 COUPLET SUMMER – 2040: V/C RATIO	SOLUTION STRATEGY	US 20 COUPLET WITH RECOMMENDED SOLUTIONS: V/C RATIO
9	US 101/US 20	Urban 4SG	0.85	**0.99**	**1.40**	Construct dual westbound right turn lanes and dual westbound left turn lanes and modify the traffic signal to include an overlap phase for westbound right turns	**0.90**
13	US 20/Benton	Urban 4ST	0.85/0.95	**0.46/1.05**	0.22/0.64	N/A	0.22/0.64
14	US 20/Harney-Moore	Urban 4SG	0.85	**0.85**	**1.22**	Widen (as necessary) and restripe to construct left turn lanes on the northbound and southbound approaches and restripe the existing westbound right turn lane to be a shared through/right-turn lane	0.64

Note: **bolded** values indicate a location exceeds its mobility target

FIGURE 8: DOWNTOWN CIRCULATION OPTION 3 – US 20 COUPLET



HARNEY STREET EXTENSION ALTERNATIVES

Newport does not have a parallel route on the east side of US 101 to connect future growth areas to the downtown core. The Harney Street Extension will construct a new minor arterial road between NE 7th Street and NE Big Creek Road before connecting to US 101 at the proposed NE 36th Street traffic signal. This extension will provide a continuous connection between US 20 and NE 36th Street with limited access to amenities along US 101 north of NE 7th Street. The Harney Street extension will also provide a critical connection to serve future growth in this area.

The proposed Harney Street Extension was evaluated for its potential impact to traffic operations on US 101 and US 20 and to identify any necessary improvements along the route. Key Findings include:

- The Harney Street Extension is expected to serve primarily regional traffic travelling between US 20 and US 101 to the north of Newport and future growth areas along this corridor. The projected ADT will be between 4,000 and 7,000 vehicles per day in 2040.
- This new extension provides limited connections for most Newport drivers since it provides an indirect connection between limited areas of the city. Constructing this extension will not significantly relieve congestion on US 101 in Newport.

Operations for study intersections along the Harney Street Extension both with and without the connection are summarized in Table 12. Constructing the Harney Street Extension does not significantly impact vehicle operations at the US 101/NE Harney Street/SE Moore Drive intersection relative to the 2040 summer baseline. The proposed spot improvements at this location (INT6) will be sufficient to resolve the anticipated congestion if the Harney Street extension is built. While the US 101/NE 36th Street intersection will not exceed its mobility target with construction of the Harney Street extension, signalization at this intersection could be desirable to facilitate access to and from this corridor. This intersection is expected to exceed its mobility target under summer 2040 conditions with construction of a traffic signal, so adopting an alternate mobility target would also be needed at this location.

TABLE 12: COMPARISON OF SUMMER 2040 OPERATIONAL RESULTS WITH AND WITHOUT US 20 COUPLET

#	STUDY INTERSECTION	INTERSECTION CONTROL	MOBILITY TARGET	BASELINE SUMMER – 2040: V/C RATIO	HARNEY STREET EXTENSION SUMMER – 2040: V/C RATIO	SOLUTION STRATEGY	HARNEY STREET EXTENSION WITH RECOMMENDED SOLUTIONS: V/C RATIO
4	US 101/36th	Urban 3ST	0.8/0.95	0.68/0.24	0.69/0.75	Install a traffic signal*	**0.87**

TABLE 12: COMPARISON OF SUMMER 2040 OPERATIONAL RESULTS WITH AND WITHOUT US 20 COUPLET							
#	STUDY INTERSECTION	INTERSECTION CONTROL	MOBILITY TARGET	BASELINE SUMMER – 2040: V/C RATIO	HARNEY STREET EXTENSION SUMMER – 2040: V/C RATIO	SOLUTION STRATEGY	HARNEY STREET EXTENSION WITH RECOMMENDED SOLUTIONS: V/C RATIO
14	US 20/Moore	Urban 4SG	0.85	**0.85**	**0.92**	Widen (as necessary) and restripe to construct left turn lanes on the northbound and southbound approaches	0.70
17	Harney/7th	Urban 4ST - AWSC	0.95	0.22	0.88	Retain the existing all-way stop control or construct a mini-roundabout	0.88

Note: **bolded** values indicate a location exceeds its mobility target

*Although the NE 36th Street approach does not exceed its mobility target with the Harney Street Extension, high side-street delay makes signalization desirable for a major parallel route to US 101

FIGURE 9: PROPOSED HARNEY STREET ALIGNMENT

COMPARISON OF IDENTIFIED TRANSPORTATION SOLUTIONS

Four major sets of solutions were identified for Newport, including:

- **Minor roadway improvements** which include spot motor vehicle improvements, minor roadway extensions, enhancements to the pedestrian and bicycle network, and other programmatic improvements
- **Major roadway improvements** which include the previously identified minor roadway improvements and one of the following major street improvement projects:
  - **US 101 Couplets**
  - **US 20 Couplet**
  - **Harney Street Extension**

A detailed evaluation for each of these solution strategies is included in the prior sections. This analysis was used to compare each solution strategy to each other and to highlight key differences between each of the alternatives. This comparison is summarized below in Table 13.

TABLE 13: SOLUTION STRATEGY COMPARISON						
EVALUATION CRITERIA	**EXPLANATION**	**MINOR ROADWAY IMPROVEMENTS**	**US 101 LONG COUPLET**	**US 101 SHORT COUPLET**	**US 20 COUPLET**	**HARNEY STREET EXTENSION**
PEDESTRIAN TRAVEL ON LOCAL STREETS	All scenarios include sidewalk infill on the local street network resulting in *better* conditions for pedestrians.	▲	▲	▲	▲	▲
PEDESTRIAN TRAVEL ON HIGHWAY	All scenarios recommend construction of shared use paths along US 101 for *better* pedestrian facilities. The couplet scenarios also include streetscape and pedestrian improvements along the highway in downtown Newport resulting in the *best* conditions for pedestrians.	▲	▲▲	▲▲	▲▲	▲
BICYCLE TRAVEL ON LOCAL STREETS	All scenarios include new bicycle facilities on the local street network resulting in *better* conditions for cyclists.	▲	▲	▲	▲	▲

TABLE 13: SOLUTION STRATEGY COMPARISON						
EVALUATION CRITERIA	**EXPLANATION**	**MINOR ROADWAY IMPROVEMENTS**	**US 101 LONG COUPLET**	**US 101 SHORT COUPLET**	**US 20 COUPLET**	**HARNEY STREET EXTENSION**
BICYCLE TRAVEL ON HIGHWAY	All scenarios recommend construction of shared use paths along US 101 for *better* bicycle facilities. The couplet scenarios also include bicycle lanes on the highway in downtown Newport resulting in the *best* conditions for bicyclists.	▲	▲▲	▲▲	▲▲	▲
VEHICLE OPERATIONS	All scenarios recommend construction of intersection enhancements and minor roadway extensions which can increase the capacity of the existing transportation system. These improvements result in *better* conditions for motor vehicles. The couplet scenarios and the Harney Street extension provide significant new capacity for motor vehicles resulting in the *best* conditions for motor vehicles.	▲▲	▲▲	▲▲	▲▲	▲▲

TABLE 13: SOLUTION STRATEGY COMPARISON						
EVALUATION CRITERIA	**EXPLANATION**	**MINOR ROADWAY IMPROVEMENTS**	**US 101 LONG COUPLET**	**US 101 SHORT COUPLET**	**US 20 COUPLET**	**HARNEY STREET EXTENSION**
HOSPITAL ACCESS	The US 101 long couplet alternative significantly increases volumes on SW 9th Street in front of the hospital. Increased traffic volumes can make it more challenging for people on foot or in vehicles to reach the hospital in the event of an emergency, resulting in *worse* access conditions. All other alternatives will not significantly change access conditions for the hospital.	–	▼	–	–	–

TABLE 13: SOLUTION STRATEGY COMPARISON						
EVALUATION CRITERIA	**EXPLANATION**	**MINOR ROADWAY IMPROVEMENTS**	**US 101 LONG COUPLET**	**US 101 SHORT COUPLET**	**US 20 COUPLET**	**HARNEY STREET EXTENSION**
ECONOMIC REDEVELOPMENT POTENTIAL	Increasing developable land fronting a highway can spur economic growth and redevelopment through increased traffic. Both the US 20 and US 101 short couplet alternatives will increase properties fronting the highway resulting in *better* conditions for economic redevelopment. The US 101 long couplet increases the total length and provides even more development opportunities which can create the *best* redevelopment conditions. Both the minor roadway improvements and Harney Street extension scenarios will not significantly increase access to developable commercial lands.	–	▲▲	▲	▲	–

TABLE 13: SOLUTION STRATEGY COMPARISON						
EVALUATION CRITERIA	**EXPLANATION**	**MINOR ROADWAY IMPROVEMENTS**	**US 101 LONG COUPLET**	**US 101 SHORT COUPLET**	**US 20 COUPLET**	**HARNEY STREET EXTENSION**
STREETSCAPE POTENTIAL	The revised roadway standards for Newport will ensure that new or improved roadways will provide *better* streetscape opportunities under all scenarios. Developing new couplets for both US 101 and US 20 provides an opportunity to also improve the existing roadway streetscape along the highway. These alternatives have the *best* streetscape potential.	▲	▲▲	▲▲	▲▲	▲

COST	The minor roadway improvements alternative does not include any large capital projects, so this alternative is comparatively *low* cost. The US 101 long couplet alternative includes a major capital project but utilizes the existing roadway network to minimize right-of-way costs relative to the other major capital projects. This alternative is comparatively *medium* cost. The US 101 short couplet, US 20 couplet, and Harney Street extension alternatives are all expected to require significant capital funds for construction due to either right-of-way costs or topographical constraints. These alternatives are comparatively *high* cost. Detailed cost estimates will be prepared during the next project phase.	$	$$	$$$	$$$	$$$

NOTES:

▲▲ = ALTERNATIVE PROVIDES *BEST* OUTCOME FOR EVALUATION CRITERIA

TABLE 13: SOLUTION STRATEGY COMPARISON						
EVALUATION CRITERIA	**EXPLANATION**	**MINOR ROADWAY IMPROVEMENTS**	**US 101 LONG COUPLET**	**US 101 SHORT COUPLET**	**US 20 COUPLET**	**HARNEY STREET EXTENSION**
▲ = ALTERNATIVE PROVIDES *BETTER* OUTCOME FOR EVALUATION CRITERIA						
▬ = ALTERNATIVE PROVIDES *NEUTRAL* OUTCOME FOR EVALUATION CRITERIA						
▼ = ALTERNATIVE PROVIDES *WORSE* OUTCOME FOR EVALUATION CRITERIA						
$ = **LOW-COST ALTERNATIVE**						
$$ = **MEDIUM-COST ALTERNATIVE**						
$$$ = **HIGH-COST ALTERNATIVE**						

APPENDIX

CONTENTS

SECTION 1. EVALUATION CRITERIA DEFINITIONS

SECTION 2. PROJECT LIST

Project ID	Location	Extents		Description
		From	To	
INT1	US 101/NE 73rd Street			Complete an intersection control evaluation: either a traffic signal or roundabout are potential solutions
INT3	US 101/NW Oceanview Drive			Widen the eastbound NW Oceanview Drive approach to include spearate left and right turn lanes
INT4	US 101/US 20			Construct intersection improvements
INT5	US 101/SW Hurbert Street			Restripe US 101 approaches to include left turn lanes and modify signal to include protected left turn phases for US 101 (project removes on-street parking)
INT6	US 101/SE Moore Drive/NE Harney Street			Complete an intersection control evaluation: either a traffic signal (with separate left turn lanes on the northbound and southbound approaches) or a roudnabout are potential solutions
INT7	US 101/SW Angle Street			Restripe SW Angle Street approaches to right-in/right-out only
INT8	US 101/NE 36th Street			Complete an intersection control evaluation: either a Itraffic signal (with separate left and right turn lanes for westbound traffic) or roundabout are potential solutions
INT9	US 101/SW 40th Street			Complete an intersection control evaluation: either a traffic signal or roundabout are potential solutions
INT10	US 20/Benton Street			Restripe northbound approach to include a right turn pocket (project removes on-street parking)
INT11	US 101/NW 6th Street			Realign intersection
INT12	US 101/NE 57th Street			Realign approach to align with NW 58th Street
EXT1	NW Gladys Street	NW 55th Street	NW 60th Street	Extend NW Gladys Street to create a continuous neighborhood collector street
EXT3	NE 6th Street	NE 6th Street	NE Yaquina Heights Drive	Extend NE 6th Street to create a continuous neighborhood collector
EXT4	NE Harney Street	NE 7th Street	NE Big Creek Road	Extend NE Harney Street to a create a continuous major collector street and install a mini roundabout (i.e., roundabout with a mountable center island to accommodate school buses or large trucks) at the intersection of NE Harney Street/NE 7th Street
EXT7	SW 35th Street	SW Abalone Street	SE Ferry Slip Road	Extend SW 35th Street to create a continuous major collector street and construct a shared use path on one side only
EXT8	SE Ash Street	SE 40th Street	SE 42nd Street	Extend SE Ash Street to create a continuous major collector street
EXT9	SE 50th Street	US 101	SE 50th Place	Realign SE 50th Street south to create a continuous major collector street between the existing alignment and the entrance to South Beach State Park and construct a shared use path on one side only
EXT10	SE 62nd Street	End	SE 50th Street	Extend SE 62nd Street north to create a continuous major collector street between the existing terminus and SE 50th Street and construct a shared use path on one side only
EXT11	SE 50th Street	SE 62nd Street	SE Harborton Street	Extend SE 50th Street to create a continuous major collector street between the SE 50th/SE 62nd intersection and SE Harborton Street and construct a shared use path on one side only
EXT12	NW Nye Street	NW Oceanview Drive	NW 15th Street	Extend NW Nye Street to create a continuous neighborhood collector street between NW Oceanview Drive and NW 15th Street
REV1	NE 31st Street	NE 32nd Street	NE Harney Street	Reconfigure NE 31st Street to serve pedestrians, bicycles, and emergency vehicles only Note this project is currently being refined and will only be advanced with the provision of two access points for all residents east of US 101

Project ID	Location	Extents From	To	Description
REV5	Yaquina Bay Bridge Refinment Plan			Conduct a study to identify the preferred alignment of a replacement bridge, typical cross-section, implementation, and feasibility, and implement long-term recommendations from the Oregon Coast Bike Route Plan
SW1	NW 3rd Street	NW Brook Street	NW Nye Street	Complete existing sidewalk gaps using either standard sidewalk or restripe to provide a designated pedestrian walkway in-street
SW2	NE 3rd Street	NE Eads Street	NE Harney Street	Complete existing sidewalk gaps
SW3	SW Elizabeth Street	W Olive Street	SW Government Street	Complete existing sidewalk gaps
SW5	NE 6th Street	US 101	NE Avery Street	Complete existing sidewalk gaps (project will impacat off-street parking)
SW6	NE 7th Street	NE Eads Street	NE 6th Street	Complete existing sidewalk gaps
SW8	NE Harney Street	US 20	NE 3rd Street	Complete existing sidewalk gaps
SW9	US 20	NE Fogarty Street	NE Harney Street	Complete existing sidewalk gaps
SW10	SW Abbey Street/SW Harbor Way	SW 6th Street	SW 13th Street	Complete existing sidewalk gaps. Sidewalk gaps may be completed on one side only in areas with significant topography
SW11	SE Benton Street/SE 2nd Street/SE Coos Street/NE Benton Street	SE 10th Street	NE 12th Street	Complete existing sidewalk gaps
SW12	SW 2nd Street	SW Elizabeth Street	SW Nye Street	Complete existing sidewalk gaps
SW13	NW Nye Street	W Olive Street	NW 15th Street	Complete existing sidewalk gaps
SW14	NW/NE 11th Street	NW Spring Street	NE Eads Street	Complete existing sidewalk gaps
SW16	NW Edenview Way/NE 20th Street	NW Oceanview Drive	NE Crestview Drive	Complete existing sidewalk gaps
SW17	NW 60th Street	US 101	NW Gladys Street	Complete existing sidewalk gaps
SW18	SE 35th Street	SE Ferry Slip Road	South Beach Manor Memory Care	Complete existing sidewalk gaps on north side only
SW19	NW 8th Street/NW Spring Street	NW Coast Street	NW 11th Street	Complete existing sidewalk gaps
SW20	NW Gladys Street/NW 55th Street	NW 60th Street	US 101	Complete existing sidewalk gaps
SW21	US 101	NW 25th Street	NW Oceanview Drive	Complete sidewalk infill on east side of US 101 only Note the specified side is subject to modification
SW22	Yaquina Bay State Park Drive	SW Elizabeth Street	SW Naterlin Drive	Complete existing sidewalk gaps and install enhanced pedestrian crossings within the Yaquina Bay State Recreation Site Note proposed improvements should be consistent with the Yaquina Bay State Recreation Site Master Plan
SW23	SW Bay Boulevard	SE Fogarty Street	SE Moore Drive	Complete existing sidewalk gaps
SW24	NW 55th Street	NW Glady Street	NW Piney Street	Complete existing sidewalk gaps
SW25	NE Harney Street/NE 36th Street	US 101	NE Big Creek Road	Complete existing sidewalk gaps
SW26	NE Avery Street/NE 71st Street	US 101	NE Echo Court	Complete existing sidewalk gaps
SW27	NE 12th Street	US 101	NE Benton Street	Complete existing sidewalk gaps
SW28	SW Bayley Street	SW Elizabeth Street	US 101	Complete existing sidewalk gaps
SW29	US 101	SE Pacific Way	SW 35th Street	Complete existing sidewalks gaps Note this project is currently being constructed
SW30	Yaquina Bay Road	SE Vista Drive	SE Running Spring	Complete existing sidewalk gaps on north side only
TR1	NW Oceanview Drive	US 101	NW Nye Street Extension	Construct a shared use path on one side only

Project ID	Location	Extents From	Extents To	Description
TR2	US 101 (North)	NW Oceanview Drive	North UGB	Construct a shared use path on one side only. The proposed path will be located on the west side of US 101 south of NW Lighthouse Drive and on the east side of US 101 north of NW Lighthouse Drive. Sidewalk infill will be completed on the opposite side between NW 60th Street and NW Oceanview Drive. Shared use path project should be consistent with previous planning efforts (e.g., Agate Beach Historic Bicycle/Pedestrian Path, Lighthouse to Lighthouse Path). Note the specified side and project extents are subject to modification
TR3	US 101 (South)	SE 35th Street	South UGB	Construct a shared use path on the west side of US 101 and complete existing sidewalk gaps on east side of US 101 Note the specidied side and project extents are subject to modification Note sidewalk on the east side of US 101 between SE 35th Street and SE Ferry Slip Road is currently being constructed
TR5	NW Lighthouse Drive	US 101	End	Construct a shared use path on one side only and other improvements as identified by the BLM/FHWA Note pedestrian/bicycle crossing improvements may be needed at the intersection of US 101/NW Lighthouse Drive
TR6	NE Big Creek Road	NE Fogarty Street	NE Harney Street	Construct a shared use path Note this project utilizes the existing roadway width but includes separation to designate one 12 ft. travel lane and an adjacent shared use path
TR7	NW Rocky Way	NW 55th Street	NW Lighhouse Drive	Construct a shared use path and other improvements as identified by the BLM/FHWA
TR9	SE 40th Street	US 101	SE Harborton Street	Construct a shared use path on one side only to complete existing gap
TR11	NW Nye Street	NW Oceanview Drive	NW 15th Street	Construct a shared use path in coordination with BL2 and SW13. Note this project should only be constructed in the event EXT12 is not constructed
TR12	SE 1st Street	SE Douglas Street	SE Fogarty Street	Construct a shared use path
TR13	US 101	NW Oceanview Drive	NW 25th Street	Construct a shared use path on the west side of US 101 Note the specified side and project extents are subject to modification
TR14	SW Abalone Street	US 101	SW Abalone Strett	Construct a shared use path on the south side of SW Abalone Street
BR1	NE 12th Street	US 101	NW Eads Street	Install signing and striping as needed to designate a bike route
BR2	NE Harney Street/NE 36th Street	NE Big Creek Road	US 101	Install signing and striping as needed to designate a bike route Note this project would be eliminate in favor of on-street bike lanes if the Harney Street extension is completed
BR3	NE Eads Street/NE 12th Street	NE 3rd Street	NE Fogarty Street	Install signing and striping as needed to designate a bike route
BR4	Yaquina Bay State Park Drive	SW Elizabeth Street	SW Naterlin Drive	Install signing and striping as needed to designate a bike route Note proposed improvements should be consistent with the Yaquina Bay State Recreation Site Master Plan
BR7	SW 2nd Street/SW Angle Street	SW Elizabeth Street	SW Nye Street	Install signing and striping as needed to designate a bike route

Project ID	Location	Extents		Description
		From	To	
BR9	NW Edenview Way/NE 20th Street	NW Oceanview Drive	NW Crestview Drive	Install signing and striping as needed to designate a bike route Restripe through US 101/NE 20th Street intersection to provide on-street bike lanes approximately between NW Edenview Way and the eastern Fred Meyer Driveway (project removes on-street parking on one side only)
BR10	NW 60th Street/NW Gladys Street/NW 55th Street	US 101	US 101	Install signing and striping as needed to designate a bike route through Agate Beach
BR12	NE Avery Street/NE 71st Street	US 101	NE Echo Court	Install signing and striping as needed to designate a bike route
BR13	NW 3rd Street	US 101	NW Cliff Street	Install signing and striping as needed to designate a bike route
BR14	Yaquina Bay Bridge Interim Improvements			Install signing and striping as needed to designate a bike route and implement other improvements as identified in the Oregon Coast Bike Route Plan such as flashing warning lights or advisory speed signs
BR15	NW Oceanview Drive Interim Improvements	US 101	NW Nye Street Extension	Install signing and striping as needed to designate a bike route and implement other improvements as identified in the Oregon Coast Bike Route Plan
BR16	NW 55th Street	NW Glady Street	NW Piney Street	Install signing and striping as needed to designate a bike route
BR17	NW 6th Street	NW Coast Street	NW Nye Street	Install signing and striping as needed to designate a bike route
BR18	NE 7th Street	NE Eads Street	NE 6th Street	Install signing and striping as needed to designate a bike route
BR19	NW Oceanview Drive/NW Spring Street/NW Coast Street	NW Nye Street Extension	W Olive Street	Install signing and striping as needed to designate a bike route
SBL1	SE Moore Drive/NE Harney Street	SE Bay Boulevard	NE 7th Street	Restripe to install buffered bike lanes between SE Bay Boulevard and US 20; Widen to install buffered bike lanes between US 20 and NE Yaquina Heights Drive; Restripe and upgrade the existing on-street bike lanes between NE Yaquina Heights Drive and NE 7th Street (project removes on-street parking on one side only) Note: limited additional widening may be required to accommodate INT6 turn lanes
SBL2	US 101	Yaquina Bay Bridge	SW 9th Street	Construct a separated bicycle facility on US 101 Note the specified facility design and project extents are subject to review and modification
SBL3	US 101	SW 9th Street	NW 25th Street	Construct a separated bicycle facility on US 101 Note the specified facility design and project extents are subject to review and modification
SBL4	US 101	Yaquina Bay Bridge	SE 35th Street	Construct a separated bicycle facility on US 101 Note the specified facility design and project extents are subject to review and modification
BL1	SW Canyon Way	SW 9th Street	SW Bay Bouelvard	Restripe to provide on-street bike lanes in uphill direction and mark sharrows in the downhill direction (project may convert existing angle parking near SW Bay Boulevard to parallel parking)
BL2	NW Nye Street	NW 15th Street	SW 2nd Street	Restripe NW Nye Street to include on-street bicycle lanes (project removes on-street parking on one side only)
BL4	SW 9th Street	US 101	SW Angle Street	Restripe or widen as needed to provide on-street bike lanes (project removes on-street parking) Note: this project does not assume the US 101 couplet is constructed
BL5	SW Bayley Street	US 101	SW Elizabeth Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only)
BL6	SW Hurbert Street	SW 9th Street	SW 2nd Street	Restripe to provide on-street bike lanes (existing angle parking will be converted to parallel parking on one side only)

Project ID	Location	Extents From	Extents To	Description
BL7	NW/NE 6th Street	NW Nye Street	NE Eads Street	Restripe or widen as needed to provide on-street bike lanes (project removes on-street parking on one side only)
BL8	NW/NE 11th Street	NW Spring Street	NE Eads Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only although on-street parking may be impacted on both sides of the street between NW Lake Street and NW Nye Street)
BL9	NE 3rd Street	NE Eads Street	NE Harney Street	Widen as needed to provide on-street bike lanes
BL10	NE Yaquina Heights Drive	NE Harney Street	US 20	Widen as needed to provide on-street bike lanes
BL11	SW 10th Street/SE 2nd Street/SE Coos Street/NE Benton Street	SW 9th Street	NE 11th Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only between NE 11th Street and US 20) Note 5 ft. bike lanes are acceptable between US 20 and SE 2nd Street
BL12	SW Elizabeth Street	SW Government Street	W Olive Street	Restripe to provide on-street bike lanes (project removes on-street parking on one side only)
BL13	W Olive Street	SW Elizabeth Street	US 101	Restripe to provide on-street bike lanes (project removes on-street parking on one side only) Note project requires modification of existing curb extensions at Coast Street; on-street bike lanes may terminate prior to the US 101 intersection to provide space for turn pockets
BL14	Yaquina Bay Road	SE Moore Drive	SE Running Spring	Restripe or widen as needed to provide on-street bike lanes
CR1	NW 60th Street/US 101			Install an enhanced pedestrian crossing
CR2	SE Coos Street/US 20			Install an enhanced pedestrian crossing
CR3	NW 55th Street/US 101			Install an enhanced pedestrian crossing
CR4	NE Eads Street/US 20			Install an enhanced pedestrian crossing
CR5	NW Oceanview/US 101			Install an enhanced pedestrian crossing
CR6	SE 32nd Street/US 101			Install an enhanced pedestrian crossing
CR7	SW Naterlin Drive/US 101			Improve pedestrian connections between Yaquina Bay Bridge and downtown Newport through pedestrian wayfinding, marked crossings, and other traffic control measures
CR8	NW 68th Street/US 101			Install an enhanced pedestrian crossing
CR9	Between NW 60th Street and NW 68th Street/US 101			Install an enhanced pedestrian crossing to serve existing transit stops and RV park
CR10	NW 58th/US 101			Install an enhanced pedestrian crossing
CR11	NW 48th/US 101			Install an enhanced pedestrian crossing
CR12	NW 43rd/US 101			Install an enhanced pedestrian crossing
CR13	Best Western Driveway/US 101			Install an enhanced pedestrian crossing
CR14	NE 17th/US 101			Install an enhanced pedestrian crossing
CR15	NW 12th/US 101			Install an enhanced pedestrian crossing
CR16	NW 8th/US 101			Install an enhanced pedestrian crossing
CR17	SW Neff/US 101			Install an enhanced pedestrian crossing
CR18	SW Bay/US 101			Install an enhanced pedestrian crossing
CR19	SE Benton/US 20			Install an enhanced pedestrian crossing
PRO1	Parking Management			Implement additional parking management strategies for the Nye Beach and Bayfront Areas. Strategies could include metering, permits, or other time restrictions
PRO2	Transportationd Demand Management			Implement strategies to enhance transit use in Newport. Specific strategies could include public information, stop enhancements, route refinement, or expanded service hours
PRO3	Neighborhood Traffic Management			Implement a neighborhood traffic calming program
PRO4	Yaquina Bay Ferry Service			Implement a foot ferry for bicyclists and pedestrians across Yaquina Bay

SECTION 3: OPERATIONS RESULTS

2040 SUMMER BASELINE RESULTS

Intersection	
Int Delay, s/veh	25.3

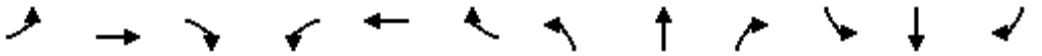
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑	↗	↰	↕	
Traffic Vol, veh/h	1	0	5	95	0	15	5	885	60	20	690	2
Future Vol, veh/h	1	0	5	95	0	15	5	885	60	20	690	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	200	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	7	0	0	0	3	38	69	3	0
Mvmt Flow	1	0	5	100	0	16	5	932	63	21	726	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1751	1774	727	1714	1712	932	728	0	0	995	0	0
Stage 1	769	769	-	942	942	-	-	-	-	-	-	-
Stage 2	982	1005	-	772	770	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.17	6.5	6.2	4.1	-	-	4.79	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.563	4	3.3	2.2	-	-	2.821	-	-
Pot Cap-1 Maneuver	68	84	427	~ 69	91	326	885	-	-	489	-	-
Stage 1	397	413	-	309	344	-	-	-	-	-	-	-
Stage 2	302	322	-	385	413	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	80	427	~ 66	87	326	885	-	-	489	-	-
Mov Cap-2 Maneuver	62	80	-	~ 66	87	-	-	-	-	-	-	-
Stage 1	395	395	-	307	342	-	-	-	-	-	-	-
Stage 2	286	320	-	364	395	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.2	$ 405.2	0	0.4
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	885	-	-	216	74	489	-	-
HCM Lane V/C Ratio	0.006	-	-	0.029	1.565	0.043	-	-
HCM Control Delay (s)	9.1	-	-	22.2	$ 405.2	12.7	-	-
HCM Lane LOS	A	-	-	C	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	9.7	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



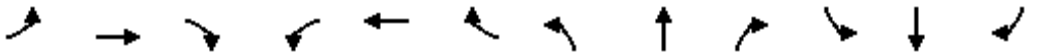
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	5	90	95	0	15	55	1080	120	30	850	30
Future Volume (veh/h)	35	5	90	95	0	15	55	1080	120	30	850	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1736	1750	1750	1750	1695	1682	1750	1750	1695	1750
Adj Flow Rate, veh/h	37	5	95	100	0	16	58	1137	0	32	895	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	1	0	0	0	4	5	0	0	4	0
Cap, veh/h	55	4	297	59	0	299	79	1123		52	1102	
Arrive On Green	0.20	0.20	0.20	0.20	0.00	0.20	0.05	0.67	0.00	0.03	0.65	0.00
Sat Flow, veh/h	0	19	1457	0	0	1468	1615	1682	1483	1667	1695	1483
Grp Volume(v), veh/h	42	0	95	100	0	16	58	1137	0	32	895	0
Grp Sat Flow(s),veh/h/ln	19	0	1457	0	0	1468	1615	1682	1483	1667	1695	1483
Q Serve(g_s), s	0.0	0.0	6.8	0.0	0.0	1.1	4.4	82.0	0.0	2.3	48.1	0.0
Cycle Q Clear(g_c), s	24.5	0.0	6.8	24.5	0.0	1.1	4.4	82.0	0.0	2.3	48.1	0.0
Prop In Lane	0.88		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	59	0	297	59	0	299	79	1123		52	1102	
V/C Ratio(X)	0.71	0.00	0.32	1.71	0.00	0.05	0.74	1.01		0.62	0.81	
Avail Cap(c_a), veh/h	59	0	297	59	0	299	79	1123		81	1132	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.9	0.0	41.7	61.2	0.0	39.4	57.7	20.4	0.0	58.8	15.9	0.0
Incr Delay (d2), s/veh	31.4	0.0	0.5	379.7	0.0	0.1	28.8	30.0	0.0	8.5	5.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	2.5	8.0	0.0	0.4	2.4	35.7	0.0	1.1	17.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.3	0.0	42.1	440.9	0.0	39.4	86.5	50.4	0.0	67.3	21.0	0.0
LnGrp LOS	F	A	D	F	A	D	F	F		E	C	
Approach Vol, veh/h		137			116			1195	A		927	A
Approach Delay, s/veh		56.9			385.5			52.2			22.6	
Approach LOS		E			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	83.8		29.0	7.8	86.0		29.0				
Change Period (Y+Rc), s	4.5	6.0		4.5	4.5	6.0		4.5				
Max Green Setting (Gmax), s	5.5	80.0		24.5	5.5	80.0		24.5				
Max Q Clear Time (g_c+I1), s	6.4	50.1		26.5	4.3	84.0		26.5				
Green Ext Time (p_c), s	0.0	13.4		0.0	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		57.2	
HCM 6th LOS		E	

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	5	90	95	0	15	55	1080	120	30	850	30
Future Volume (vph)	35	5	90	95	0	15	55	1080	120	30	850	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1663	1440		1659	1442	1599	1667	1457	1662	1683	1488
Flt Permitted		0.68	1.00		0.73	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1176	1440		1274	1442	1599	1667	1457	1662	1683	1488
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	5	95	100	0	16	58	1137	126	32	895	32
RTOR Reduction (vph)	0	0	83	0	0	14	0	0	19	0	0	9
Lane Group Flow (vph)	0	42	12	0	100	2	58	1137	107	32	895	23
Confl. Peds. (#/hr)	4		1	1		4						
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	4%	5%	0%	0%	4%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)		13.7	13.7		13.7	13.7	4.4	83.3	83.3	3.2	82.1	82.1
Effective Green, g (s)		14.2	14.2		14.2	14.2	4.9	85.3	85.3	3.7	84.1	84.1
Actuated g/C Ratio		0.12	0.12		0.12	0.12	0.04	0.74	0.74	0.03	0.73	0.73
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.5	4.8	4.8	2.5	4.8	4.8
Lane Grp Cap (vph)		144	177		157	177	68	1234	1078	53	1228	1086
v/s Ratio Prot							c0.04	c0.68		0.02	0.53	
v/s Ratio Perm		0.04	0.01		c0.08	0.00			0.07			0.02
v/c Ratio		0.29	0.07		0.64	0.01	0.85	0.92	0.10	0.60	0.73	0.02
Uniform Delay, d1		45.9	44.6		48.0	44.3	54.8	12.2	4.2	55.0	9.0	4.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.8	0.1		7.2	0.0	60.3	11.7	0.1	15.3	2.6	0.0
Delay (s)		46.7	44.8		55.3	44.4	115.1	23.9	4.3	70.3	11.6	4.3
Level of Service		D	D		E	D	F	C	A	E	B	A
Approach Delay (s)		45.4			53.7			26.1			13.3	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	115.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	12.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	130	60	20	1150	970	55
Future Vol, veh/h	130	60	20	1150	970	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	11	5	4	4
Mvmt Flow	138	64	21	1223	1032	59

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2297	1032	1091	0	-	0
Stage 1	1032	-	-	-	-	-
Stage 2	1265	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.21	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.299	-	-	-
Pot Cap-1 Maneuver	~ 43	285	607	-	-	-
Stage 1	347	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 41	285	607	-	-	-
Mov Cap-2 Maneuver	154	-	-	-	-	-
Stage 1	335	-	-	-	-	-
Stage 2	268	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	156.9	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	607	-	180	-	-
HCM Lane V/C Ratio	0.035	-	1.123	-	-
HCM Control Delay (s)	11.1	-	156.9	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	10.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	15	1085	40	10	995
Future Vol, veh/h	25	15	1085	40	10	995
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	275	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	31	4	0	0	3
Mvmt Flow	27	16	1154	43	11	1059

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2235	1154	0	0	1197	0
Stage 1	1154	-	-	-	-	-
Stage 2	1081	-	-	-	-	-
Critical Hdwy	6.4	6.51	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.579	-	-	2.2	-
Pot Cap-1 Maneuver	47	210	-	-	590	-
Stage 1	303	-	-	-	-	-
Stage 2	328	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	46	210	-	-	590	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	303	-	-	-	-	-
Stage 2	322	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.5	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	178	590	-
HCM Lane V/C Ratio	-	-	0.239	0.018	-
HCM Control Delay (s)	-	-	31.5	11.2	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

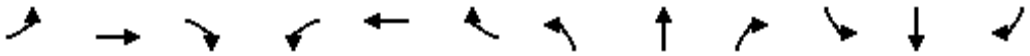
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	10	1115	90	20	995
Future Vol, veh/h	35	10	1115	90	20	995
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	50	300	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	14	5	0	0	3
Mvmt Flow	38	11	1212	98	22	1082

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2338	1212	0	0	1310	0
Stage 1	1212	-	-	-	-	-
Stage 2	1126	-	-	-	-	-
Critical Hdwy	6.4	6.34	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.426	-	-	2.2	-
Pot Cap-1 Maneuver	41	209	-	-	535	-
Stage 1	284	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	39	209	-	-	535	-
Mov Cap-2 Maneuver	151	-	-	-	-	-
Stage 1	284	-	-	-	-	-
Stage 2	300	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.8	0	0.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	535	-
HCM Lane V/C Ratio	-	-	0.304	0.041	-
HCM Control Delay (s)	-	-	36.8	12	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	1.2	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	55	80	325	30	90	60	1325	115	80	1075	20
Future Volume (vph)	40	55	80	325	30	90	60	1325	115	80	1075	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	0.94		1.00	0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1694	1405	1564	1495		1630	3162		1614	3218	
Flt Permitted		0.98	1.00	0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1694	1405	1564	1495		1630	3162		1614	3218	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	59	86	349	32	97	65	1425	124	86	1156	22
RTOR Reduction (vph)	0	0	78	0	22	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	102	8	244	212	0	65	1544	0	86	1177	0
Confl. Peds. (#/hr)	4		4	4		4	7		2	2		7
Heavy Vehicles (%)	0%	2%	4%	1%	0%	2%	2%	4%	0%	3%	3%	0%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)		10.5	10.5	22.1	22.1		6.7	60.3		8.6	62.2	
Effective Green, g (s)		11.0	11.0	22.6	22.6		7.2	61.3		9.1	63.2	
Actuated g/C Ratio		0.09	0.09	0.19	0.19		0.06	0.51		0.08	0.53	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)		2.5	2.5	2.5	2.5		2.5	5.1		2.5	5.1	
Lane Grp Cap (vph)		155	128	294	281		97	1615		122	1694	
v/s Ratio Prot		c0.06		c0.16	0.14		0.04	c0.49		c0.05	0.37	
v/s Ratio Perm			0.01									
v/c Ratio		0.66	0.06	0.83	0.75		0.67	0.96		0.70	0.69	
Uniform Delay, d1		52.7	49.8	46.9	46.1		55.2	28.1		54.1	21.2	
Progression Factor		1.00	1.00	1.00	1.00		1.07	0.58		1.00	1.00	
Incremental Delay, d2		8.7	0.1	17.0	10.4		12.0	11.7		15.8	2.4	
Delay (s)		61.4	49.9	63.9	56.5		70.9	27.9		69.9	23.6	
Level of Service		E	D	E	E		E	C		E	C	
Approach Delay (s)		56.1			60.3			29.6			26.7	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	15	25	30	10	50	10	1500	15	15	1445	25
Future Volume (veh/h)	75	15	25	30	10	50	10	1500	15	15	1445	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1750	1750	1750	1750	1709	1709	1750	1709	1709
Adj Flow Rate, veh/h	79	16	26	32	11	53	11	1579	16	16	1521	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	3	3	0	3	3
Cap, veh/h	147	28	34	84	36	99	24	2525	26	30	2515	43
Arrive On Green	0.11	0.12	0.11	0.11	0.12	0.11	0.03	1.00	1.00	0.04	1.00	1.00
Sat Flow, veh/h	845	245	298	382	315	858	1667	3292	33	1667	3265	56
Grp Volume(v), veh/h	121	0	0	96	0	0	11	778	817	16	755	792
Grp Sat Flow(s),veh/h/ln	1388	0	0	1554	0	0	1667	1624	1702	1667	1624	1697
Q Serve(g_s), s	3.4	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	10.3	0.0	0.0	6.9	0.0	0.0	0.8	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.65		0.21	0.33		0.55	1.00		0.02	1.00		0.03
Lane Grp Cap(c), veh/h	204	0	0	213	0	0	24	1245	1305	30	1251	1308
V/C Ratio(X)	0.59	0.00	0.00	0.45	0.00	0.00	0.46	0.62	0.63	0.53	0.60	0.61
Avail Cap(c_a), veh/h	336	0	0	349	0	0	83	1245	1305	83	1251	1308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.41	0.41	0.41	0.65	0.65	0.65
Uniform Delay (d), s/veh	51.7	0.0	0.0	50.2	0.0	0.0	57.8	0.0	0.0	57.4	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	1.1	0.0	0.0	4.1	1.0	0.9	7.0	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	2.8	0.0	0.0	0.4	0.3	0.3	0.5	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	0.0	0.0	51.3	0.0	0.0	61.9	1.0	0.9	64.3	1.4	1.4
LnGrp LOS	D	A	A	D	A	A	E	A	A	E	A	A
Approach Vol, veh/h		121			96			1606			1563	
Approach Delay, s/veh		53.8			51.3			1.4			2.0	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.7	96.4		17.8	6.2	96.0		17.8
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	5.5	76.0		24.5	5.5	76.0		24.5
Max Q Clear Time (g_c+I1), s	2.8	2.0		8.9	3.1	2.0		12.3
Green Ext Time (p_c), s	0.0	51.9		0.3	0.0	54.0		0.4

Intersection Summary		
HCM 6th Ctrl Delay		5.0
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	35	30	75	20	35	35	1445	25	25	1400	30
Future Volume (veh/h)	90	35	30	75	20	35	35	1445	25	25	1400	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1750	1750	1750	1750	1709	1709	1750	1695	1695
Adj Flow Rate, veh/h	100	39	33	83	22	39	39	1606	28	28	1556	33
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	3	3	0	4	4
Cap, veh/h	127	50	42	113	30	53	55	1907	33	41	1855	39
Arrive On Green	0.12	0.13	0.12	0.10	0.12	0.10	0.03	0.58	0.57	0.05	1.00	1.00
Sat Flow, veh/h	954	372	315	932	247	438	1667	3265	57	1667	3225	68
Grp Volume(v), veh/h	172	0	0	144	0	0	39	797	837	28	776	813
Grp Sat Flow(s),veh/h/ln	1641	0	0	1617	0	0	1667	1624	1698	1667	1611	1682
Q Serve(g_s), s	12.2	0.0	0.0	10.4	0.0	0.0	2.8	48.2	48.5	2.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	0.0	0.0	10.4	0.0	0.0	2.8	48.2	48.5	2.0	0.0	0.0
Prop In Lane	0.58		0.19	0.58		0.27	1.00		0.03	1.00		0.04
Lane Grp Cap(c), veh/h	219	0	0	195	0	0	55	948	992	41	927	968
V/C Ratio(X)	0.79	0.00	0.00	0.74	0.00	0.00	0.71	0.84	0.84	0.69	0.84	0.84
Avail Cap(c_a), veh/h	219	0	0	216	0	0	83	948	992	83	927	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.30	0.30	0.30	0.75	0.75	0.75
Uniform Delay (d), s/veh	51.1	0.0	0.0	51.8	0.0	0.0	57.4	20.4	20.5	56.6	0.0	0.0
Incr Delay (d2), s/veh	16.5	0.0	0.0	10.5	0.0	0.0	3.7	2.9	2.8	10.9	6.9	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	4.9	0.0	0.0	1.2	17.6	18.6	0.9	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	0.0	0.0	62.3	0.0	0.0	61.1	23.3	23.3	67.6	6.9	6.7
LnGrp LOS	E	A	A	E	A	A	E	C	C	E	A	A
Approach Vol, veh/h		172			144			1673			1617	
Approach Delay, s/veh		67.7			62.3			24.2			7.8	
Approach LOS		E			E			C			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	73.5		18.5	6.9	74.6		20.0
Change Period (Y+Rc), s	4.5	6.5		6.0	4.5	6.5		6.0
Max Green Setting (Gmax), s	5.5	63.5		14.0	5.5	63.5		14.0
Max Q Clear Time (g_c+I1), s	4.8	2.0		12.4	4.0	50.5		14.2
Green Ext Time (p_c), s	0.0	32.1		0.1	0.0	12.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	195	35	255	165	280	75	900	215	335	975	80
Future Volume (veh/h)	205	195	35	255	165	280	75	900	215	335	975	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1654	1723	1723	1750	1695	1614	1695	1709	1709
Adj Flow Rate, veh/h	218	207	37	271	176	298	80	957	0	356	1037	85
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	7	2	2	0	4	10	4	3	3
Cap, veh/h	250	238	43	276	330	270	106	991		350	1396	114
Arrive On Green	0.15	0.17	0.16	0.17	0.19	0.19	0.06	0.31	0.00	0.07	0.15	0.15
Sat Flow, veh/h	1654	1423	254	1576	1723	1410	1667	3221	1367	1615	3032	248
Grp Volume(v), veh/h	218	0	244	271	176	298	80	957	0	356	555	567
Grp Sat Flow(s),veh/h/ln	1654	0	1678	1576	1723	1410	1667	1611	1367	1615	1624	1657
Q Serve(g_s), s	15.5	0.0	17.0	20.6	11.0	23.0	5.7	35.1	0.0	26.0	39.2	39.3
Cycle Q Clear(g_c), s	15.5	0.0	17.0	20.6	11.0	23.0	5.7	35.1	0.0	26.0	39.2	39.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	250	0	281	276	330	270	106	991		350	748	763
V/C Ratio(X)	0.87	0.00	0.87	0.98	0.53	1.10	0.75	0.97		1.02	0.74	0.74
Avail Cap(c_a), veh/h	289	0	294	276	330	270	153	991		350	748	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.43	0.43	0.43
Uniform Delay (d), s/veh	49.8	0.0	48.7	49.3	43.7	48.5	55.2	40.9	0.0	55.7	44.1	44.1
Incr Delay (d2), s/veh	21.2	0.0	22.1	49.2	1.7	85.6	9.5	21.4	0.0	36.0	2.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	8.9	11.8	4.9	14.5	2.7	16.8	0.0	14.8	17.8	18.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	0.0	70.8	98.5	45.4	134.1	64.7	62.4	0.0	91.7	47.0	47.0
LnGrp LOS	E	A	E	F	D	F	E	E		F	D	D
Approach Vol, veh/h		462			745			1037	A		1478	
Approach Delay, s/veh		70.9			100.2			62.5			57.8	
Approach LOS		E			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	59.3	22.1	27.0	30.0	40.9	25.0	24.1
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	10.5	50.0	20.5	20.5	25.5	35.0	20.5	20.5
Max Q Clear Time (g_c+I1), s	7.7	41.3	17.5	25.0	28.0	37.1	22.6	19.0
Green Ext Time (p_c), s	0.0	6.6	0.1	0.0	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	69.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	25.2

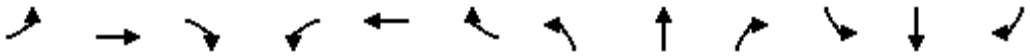
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	15	20	20	10	10	120	10	1080	15	60	1135	55
Future Vol, veh/h	15	20	20	10	10	120	10	1080	15	60	1135	55
Conflicting Peds, #/hr	0	0	17	17	0	0	22	0	11	11	0	22
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	14	0	2	0	4	0	4	2	2
Mvmt Flow	16	22	22	11	11	132	11	1187	16	66	1247	60

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2052	2667	693	2012	2689	613	1329	0	0	1214	0	0
Stage 1	1431	1431	-	1228	1228	-	-	-	-	-	-	-
Stage 2	621	1236	-	784	1461	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.78	6.5	6.94	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.78	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.78	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.64	4	3.32	2.2	-	-	2.24	-	-
Pot Cap-1 Maneuver	33	23	390	30	22	435	526	-	-	559	-	-
Stage 1	144	202	-	171	253	-	-	-	-	-	-	-
Stage 2	446	250	-	327	195	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	0	~ 12	376	-	11	430	515	-	-	553	-	-
Mov Cap-2 Maneuver	0	~ 12	-	-	11	-	-	-	-	-	-	-
Stage 1	132	109	-	158	234	-	-	-	-	-	-	-
Stage 2	276	232	-	134	105	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1092.8		0.5	2.9
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	515	-	-	23	-	553	-	-
HCM Lane V/C Ratio	0.021	-	-	2.628	-	0.119	-	-
HCM Control Delay (s)	12.1	0.4	-	$ 1092.8	-	12.4	2.5	-
HCM Lane LOS	B	A	-	F	-	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	7.6	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	25	35	70	40	45	20	965	10	45	1080	20
Future Volume (veh/h)	40	25	35	70	40	45	20	965	10	45	1080	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.98		0.98	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1682	1682	1682	1695	1695	1695	1723	1723	1723
Adj Flow Rate, veh/h	41	26	36	72	41	46	21	995	10	46	1113	21
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	5	5	5	4	4	4	2	2	2
Cap, veh/h	105	67	70	124	62	58	23	1135	12	52	1330	26
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.34	0.35	0.34	0.40	0.41	0.40
Sat Flow, veh/h	441	471	490	564	439	408	66	3279	35	127	3232	64
Grp Volume(v), veh/h	103	0	0	159	0	0	538	0	488	619	0	561
Grp Sat Flow(s),veh/h/ln	1403	0	0	1411	0	0	1692	0	1687	1716	0	1707
Q Serve(g_s), s	0.0	0.0	0.0	5.1	0.0	0.0	36.6	0.0	31.9	39.9	0.0	34.5
Cycle Q Clear(g_c), s	8.0	0.0	0.0	13.1	0.0	0.0	36.6	0.0	31.9	39.9	0.0	34.5
Prop In Lane	0.40		0.35	0.45		0.29	0.04		0.02	0.07		0.04
Lane Grp Cap(c), veh/h	235	0	0	238	0	0	586	0	584	706	0	702
V/C Ratio(X)	0.44	0.00	0.00	0.67	0.00	0.00	0.92	0.00	0.84	0.88	0.00	0.80
Avail Cap(c_a), veh/h	271	0	0	273	0	0	592	0	591	706	0	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.6	0.0	0.0	49.9	0.0	0.0	37.6	0.0	36.1	32.5	0.0	31.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	4.4	0.0	0.0	20.4	0.0	11.5	14.4	0.0	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	5.0	0.0	0.0	18.4	0.0	15.0	19.3	0.0	16.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	0.0	0.0	54.3	0.0	0.0	58.0	0.0	47.6	46.9	0.0	40.2
LnGrp LOS	D	A	A	D	A	A	E	A	D	D	A	D
Approach Vol, veh/h		103			159			1026			1180	
Approach Delay, s/veh		48.5			54.3			53.0			43.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.4		21.1		45.6		21.1				
Change Period (Y+Rc), s		5.0		4.5		5.0		4.5				
Max Green Setting (Gmax), s		45.0		19.5		41.0		19.5				
Max Q Clear Time (g_c+I1), s		41.9		15.1		38.6		10.0				
Green Ext Time (p_c), s		2.6		0.3		2.0		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			48.5									
HCM 6th LOS			D									

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	60	10	0	30	25	1110	10	10	1195	20
Future Vol, veh/h	15	0	60	10	0	30	25	1110	10	10	1195	20
Conflicting Peds, #/hr	10	0	0	0	0	10	13	0	8	8	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	4	3	0	0	2	0
Mvmt Flow	17	0	67	11	0	33	28	1233	11	11	1328	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2057	2682	688	1989	2688	640	1363	0	0	1252	0	0
Stage 1	1374	1374	-	1303	1303	-	-	-	-	-	-	-
Stage 2	683	1308	-	686	1385	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.18	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.24	-	-	2.2	-	-
Pot Cap-1 Maneuver	33	22	393	37	22	423	490	-	-	563	-	-
Stage 1	156	215	-	173	233	-	-	-	-	-	-	-
Stage 2	410	231	-	408	213	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	27	19	388	27	19	416	484	-	-	559	-	-
Mov Cap-2 Maneuver	27	19	-	27	19	-	-	-	-	-	-	-
Stage 1	145	196	-	162	218	-	-	-	-	-	-	-
Stage 2	352	216	-	311	194	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	110.6	79	0.3	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	484	-	-	106	90	559	-	-
HCM Lane V/C Ratio	0.057	-	-	0.786	0.494	0.02	-	-
HCM Control Delay (s)	12.9	-	-	110.6	79	11.6	0.4	-
HCM Lane LOS	B	-	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.2	-	-	4.3	2.1	0.1	-	-

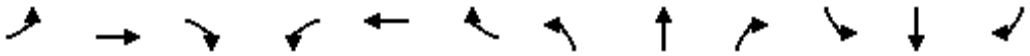
Intersection	
Int Delay, s/veh	17.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	695	45	120	625	5	20	5	210	5	10	40
Future Vol, veh/h	15	695	45	120	625	5	20	5	210	5	10	40
Conflicting Peds, #/hr	1	0	1	1	0	1	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	6	5	4	4	0	6	0	3	0	0	3
Mvmt Flow	16	732	47	126	658	5	21	5	221	5	11	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	664	0	0	780	0	0	1729	1705	758	1816	1726	663
Stage 1	-	-	-	-	-	-	789	789	-	914	914	-
Stage 2	-	-	-	-	-	-	940	916	-	902	812	-
Critical Hdwy	4.1	-	-	4.14	-	-	7.16	6.5	6.23	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.236	-	-	3.554	4	3.327	3.5	4	3.327
Pot Cap-1 Maneuver	935	-	-	828	-	-	68	92	405	61	90	459
Stage 1	-	-	-	-	-	-	378	405	-	330	355	-
Stage 2	-	-	-	-	-	-	311	354	-	335	395	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	934	-	-	827	-	-	48	77	404	23	75	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	48	77	-	23	75	-
Stage 1	-	-	-	-	-	-	371	398	-	324	301	-
Stage 2	-	-	-	-	-	-	231	300	-	147	388	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.6	118.2	55.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	235	934	-	-	827	-	-	126
HCM Lane V/C Ratio	1.053	0.017	-	-	0.153	-	-	0.459
HCM Control Delay (s)	118.2	8.9	-	-	10.1	-	-	55.8
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	10.4	0.1	-	-	0.5	-	-	2.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	835	135	75	570	195	125	80	75	175	65	40
Future Volume (veh/h)	60	835	135	75	570	195	125	80	75	175	65	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1723	1723	1709	1709	1654	1723	1723	1695	1750	1750	1750
Adj Flow Rate, veh/h	65	908	147	82	620	212	136	87	82	190	71	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	2	3	3	7	2	2	4	0	0	0
Cap, veh/h	87	1228	199	106	758	622	340	202	529	265	95	49
Arrive On Green	0.06	0.44	0.42	0.06	0.44	0.44	0.36	0.37	0.37	0.36	0.37	0.36
Sat Flow, veh/h	1537	2821	457	1628	1709	1402	749	545	1431	546	256	132
Grp Volume(v), veh/h	65	527	528	82	620	212	223	0	82	304	0	0
Grp Sat Flow(s),veh/h/ln	1537	1637	1641	1628	1709	1402	1294	0	1431	934	0	0
Q Serve(g_s), s	3.9	24.8	24.8	4.6	29.3	9.2	0.0	0.0	3.5	18.5	0.0	0.0
Cycle Q Clear(g_c), s	3.9	24.8	24.8	4.6	29.3	9.2	12.0	0.0	3.5	30.5	0.0	0.0
Prop In Lane	1.00		0.28	1.00		1.00	0.61		1.00	0.62		0.14
Lane Grp Cap(c), veh/h	87	712	714	106	758	622	535	0	529	404	0	0
V/C Ratio(X)	0.74	0.74	0.74	0.78	0.82	0.34	0.42	0.00	0.15	0.75	0.00	0.00
Avail Cap(c_a), veh/h	100	797	799	106	832	683	639	0	635	504	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.9	21.7	21.9	42.6	22.5	16.9	22.1	0.0	19.5	32.4	0.0	0.0
Incr Delay (d2), s/veh	21.1	6.0	6.0	28.7	8.8	1.2	0.4	0.0	0.1	4.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	10.2	10.3	2.7	12.9	3.1	3.7	0.0	1.2	7.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	27.8	27.9	71.3	31.3	18.1	22.5	0.0	19.6	37.3	0.0	0.0
LnGrp LOS	E	C	C	E	C	B	C	A	B	D	A	A
Approach Vol, veh/h		1120			914			305			304	
Approach Delay, s/veh		30.0			31.8			21.7			37.3	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	44.2		38.2	9.2	45.0		38.2				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	5.5	44.0		40.5	5.5	44.0		40.5				
Max Q Clear Time (g_c+I1), s	6.6	26.8		32.5	5.9	31.3		14.0				
Green Ext Time (p_c), s	0.0	12.4		1.2	0.0	8.0		1.4				

Intersection Summary			
HCM 6th Ctrl Delay		30.5	
HCM 6th LOS		C	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	80	0	70	0	110	100	20	90	0
Future Vol, veh/h	0	0	0	80	0	70	0	110	100	20	90	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	7	0	0	0	0	0	0	2	0
Mvmt Flow	0	0	0	99	0	86	0	136	123	25	111	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	402	421	111	360	360	199	111	0	0	260	0	0
Stage 1	161	161	-	199	199	-	-	-	-	-	-	-
Stage 2	241	260	-	161	161	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.17	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.17	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.563	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	562	527	948	586	570	847	1492	-	-	1316	-	-
Stage 1	846	769	-	791	740	-	-	-	-	-	-	-
Stage 2	767	697	-	829	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	497	516	948	577	558	846	1492	-	-	1315	-	-
Mov Cap-2 Maneuver	497	516	-	577	558	-	-	-	-	-	-	-
Stage 1	846	754	-	790	739	-	-	-	-	-	-	-
Stage 2	689	696	-	812	754	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12.3	0	1.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1492	-	-	-	678	1315	-	-
HCM Lane V/C Ratio	-	-	-	-	0.273	0.019	-	-
HCM Control Delay (s)	0	-	-	0	12.3	7.8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	1.1	0.1	-	-

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	30	5	15	25	10	15	100	55	15	60	5
Future Vol, veh/h	5	30	5	15	25	10	15	100	55	15	60	5
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	2	2	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	38	6	19	31	13	19	125	69	19	75	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	44	0	0	44	0	0	170	135	43	228	132	39
Stage 1	-	-	-	-	-	-	53	53	-	76	76	-
Stage 2	-	-	-	-	-	-	117	82	-	152	56	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1577	-	-	1577	-	-	798	760	1033	731	762	1038
Stage 1	-	-	-	-	-	-	965	855	-	938	836	-
Stage 2	-	-	-	-	-	-	892	831	-	855	852	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1577	-	-	1577	-	-	723	748	1031	586	750	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	723	748	-	586	750	-
Stage 1	-	-	-	-	-	-	961	852	-	934	826	-
Stage 2	-	-	-	-	-	-	796	821	-	677	849	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	2.2	10.9	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	818	1577	-	-	1577	-	-	725
HCM Lane V/C Ratio	0.26	0.004	-	-	0.012	-	-	0.138
HCM Control Delay (s)	10.9	7.3	0	-	7.3	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1	0	-	-	0	-	-	0.5

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	40	135	25	30	0	125	0	35	0	1	0
Future Vol, veh/h	1	40	135	25	30	0	125	0	35	0	1	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	1	0	0	0	0	0
Mvmt Flow	1	45	152	28	34	0	140	0	39	0	1	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.1	8.1	9.3	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	1%	45%	0%
Vol Thru, %	0%	0%	23%	55%	100%
Vol Right, %	0%	100%	77%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	35	176	55	1
LT Vol	125	0	1	25	0
Through Vol	0	0	40	30	1
RT Vol	0	35	135	0	0
Lane Flow Rate	140	39	198	62	1
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.217	0.048	0.219	0.08	0.001
Departure Headway (Hd)	5.569	4.374	3.995	4.672	4.79
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	645	823	902	768	746
Service Time	3.297	2.074	2.009	2.694	2.826
HCM Lane V/C Ratio	0.217	0.047	0.22	0.081	0.001
HCM Control Delay	9.8	7.3	8.1	8.1	7.8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.8	0.2	0.8	0.3	0

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	55	10	5	70	20	20	215	15	20	100	70
Future Vol, veh/h	10	55	10	5	70	20	20	215	15	20	100	70
Conflicting Peds, #/hr	4	0	15	15	0	4	2	0	11	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	0	0	6	2	23	0	6	0
Mvmt Flow	11	63	11	6	80	23	23	244	17	23	114	80

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	89	0	0	309	225	95	340	219	98
Stage 1	-	-	-	-	-	-	106	106	-	108	108	-
Stage 2	-	-	-	-	-	-	203	119	-	232	111	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.16	6.52	6.43	7.1	6.56	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.52	-	6.1	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.52	-	6.1	5.56	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.554	4.018	3.507	3.5	4.054	3.3
Pot Cap-1 Maneuver	1497	-	-	1519	-	-	636	674	907	618	672	963
Stage 1	-	-	-	-	-	-	890	807	-	902	798	-
Stage 2	-	-	-	-	-	-	790	797	-	775	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1491	-	-	1497	-	-	492	654	885	420	652	958
Mov Cap-2 Maneuver	-	-	-	-	-	-	492	654	-	420	652	-
Stage 1	-	-	-	-	-	-	870	789	-	891	792	-
Stage 2	-	-	-	-	-	-	617	791	-	515	778	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.4	14.8	12.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	647	1491	-	-	1497	-	-	693
HCM Lane V/C Ratio	0.439	0.008	-	-	0.004	-	-	0.312
HCM Control Delay (s)	14.8	7.4	0	-	7.4	0	-	12.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	2.2	0	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	25	35	15	1	75	45	20	80	10	40	45	15
Future Vol, veh/h	25	35	15	1	75	45	20	80	10	40	45	15
Conflicting Peds, #/hr	23	0	27	27	0	23	8	0	34	34	0	8
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	3	0	4	0	6	0	7
Mvmt Flow	30	42	18	1	90	54	24	96	12	48	54	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	167	0	0	87	0	0	301	307	112	341	289	148
Stage 1	-	-	-	-	-	-	138	138	-	142	142	-
Stage 2	-	-	-	-	-	-	163	169	-	199	147	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.54	6.2	7.16	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.54	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.54	-	6.16	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.036	3.3	3.554	4	3.363
Pot Cap-1 Maneuver	1423	-	-	1522	-	-	655	604	947	605	624	886
Stage 1	-	-	-	-	-	-	870	779	-	851	783	-
Stage 2	-	-	-	-	-	-	844	755	-	794	779	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1392	-	-	1483	-	-	566	562	893	482	581	860
Mov Cap-2 Maneuver	-	-	-	-	-	-	566	562	-	482	581	-
Stage 1	-	-	-	-	-	-	829	742	-	814	765	-
Stage 2	-	-	-	-	-	-	761	738	-	645	742	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.1	13	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	582	1392	-	-	1483	-	-	562
HCM Lane V/C Ratio	0.228	0.022	-	-	0.001	-	-	0.214
HCM Control Delay (s)	13	7.6	0	-	7.4	0	-	13.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	100	145	160	155	110
Future Vol, veh/h	65	100	145	160	155	110
Conflicting Peds, #/hr	2	9	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	100	-	-	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	0	0	3	3	8
Mvmt Flow	72	111	161	178	172	122

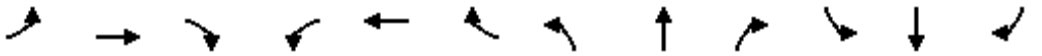
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	674	181	172	0	-	0
Stage 1	172	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	6.44	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	417	867	1417	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	369	860	1417	-	-	-
Mov Cap-2 Maneuver	369	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	604	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.4	3.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1417	-	564	-	-
HCM Lane V/C Ratio	0.114	-	0.325	-	-
HCM Control Delay (s)	7.9	-	14.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	1.4	-	-

SECTION 3: OPERATIONS RESULTS

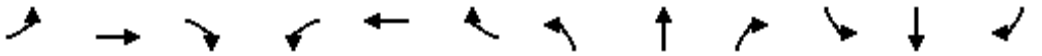
2040 MINOR ROADWAY IMPROVEMENTS RESULTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	5	95	0	15	5	885	60	20	690	2
Future Volume (veh/h)	1	0	5	95	0	15	5	885	60	20	690	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1654	1750	1750	1750	1709	1231	808	1709	1750
Adj Flow Rate, veh/h	1	0	5	100	0	16	5	932	63	21	726	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	7	0	0	0	3	38	69	3	0
Cap, veh/h	88	15	133	251	0	21	452	1086	663	212	1114	3
Arrive On Green	0.10	0.00	0.10	0.10	0.00	0.10	0.02	0.64	0.64	0.04	0.65	0.62
Sat Flow, veh/h	109	149	1288	1249	0	200	1667	1709	1043	770	1704	5
Grp Volume(v), veh/h	6	0	0	116	0	0	5	932	63	21	0	728
Grp Sat Flow(s),veh/h/ln	1546	0	0	1448	0	0	1667	1709	1043	770	0	1708
Q Serve(g_s), s	0.0	0.0	0.0	4.1	0.0	0.0	0.1	24.0	1.3	0.5	0.0	14.1
Cycle Q Clear(g_c), s	0.2	0.0	0.0	4.3	0.0	0.0	0.1	24.0	1.3	0.5	0.0	14.1
Prop In Lane	0.17		0.83	0.86		0.14	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	236	0	0	271	0	0	452	1086	663	212	0	1117
V/C Ratio(X)	0.03	0.00	0.00	0.43	0.00	0.00	0.01	0.86	0.09	0.10	0.00	0.65
Avail Cap(c_a), veh/h	592	0	0	620	0	0	592	1646	1005	263	0	1645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	0.0	24.0	0.0	0.0	5.1	8.0	3.9	9.0	0.0	5.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.1	0.0	0.0	0.0	3.1	0.1	0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	0.0	0.0	4.1	0.1	0.1	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	0.0	0.0	25.1	0.0	0.0	5.1	11.1	3.9	9.2	0.0	6.4
LnGrp LOS	C	A	A	C	A	A	A	B	A	A	A	A
Approach Vol, veh/h		6			116			1000			749	
Approach Delay, s/veh		22.3			25.1			10.6			6.5	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	39.0		9.7	5.4	40.0		9.7				
Change Period (Y+Rc), s	5.0	6.0		4.0	5.0	6.0		4.0				
Max Green Setting (Gmax), s	5.0	51.0		19.0	5.0	51.0		19.0				
Max Q Clear Time (g_c+I1), s	2.5	26.0		2.2	2.1	16.1		6.3				
Green Ext Time (p_c), s	0.0	6.9		0.0	0.0	4.8		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		9.9	
HCM 6th LOS		A	



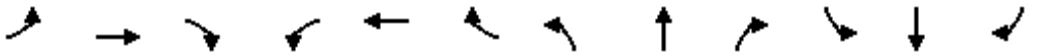
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	5	75	85	0	15	45	915	130	30	720	25
Future Volume (veh/h)	30	5	75	85	0	15	45	915	130	30	720	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1736	1750	1750	1750	1695	1682	1750	1750	1695	1750
Adj Flow Rate, veh/h	32	5	79	89	0	16	47	963	0	32	758	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	1	0	0	0	4	5	0	0	4	0
Cap, veh/h	60	5	325	64	0	328	65	1072		54	1067	
Arrive On Green	0.22	0.22	0.22	0.22	0.00	0.22	0.04	0.64	0.00	0.03	0.63	0.00
Sat Flow, veh/h	0	22	1458	0	0	1470	1615	1682	1483	1667	1695	1483
Grp Volume(v), veh/h	37	0	79	89	0	16	47	963	0	32	758	0
Grp Sat Flow(s),veh/h/ln	22	0	1458	0	0	1470	1615	1682	1483	1667	1695	1483
Q Serve(g_s), s	0.0	0.0	5.0	0.0	0.0	1.0	3.2	54.5	0.0	2.1	33.6	0.0
Cycle Q Clear(g_c), s	24.5	0.0	5.0	24.5	0.0	1.0	3.2	54.5	0.0	2.1	33.6	0.0
Prop In Lane	0.86		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	0	325	64	0	328	65	1072		54	1067	
V/C Ratio(X)	0.57	0.00	0.24	1.39	0.00	0.05	0.72	0.90		0.59	0.71	
Avail Cap(c_a), veh/h	65	0	325	64	0	328	86	1230		89	1240	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.6	0.0	35.8	55.8	0.0	34.2	53.2	17.3	0.0	53.5	13.9	0.0
Incr Delay (d2), s/veh	9.9	0.0	0.3	244.8	0.0	0.0	15.0	9.3	0.0	7.3	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.8	6.2	0.0	0.4	1.5	20.2	0.0	1.0	11.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	0.0	36.0	300.6	0.0	34.2	68.2	26.5	0.0	60.8	16.1	0.0
LnGrp LOS	E	A	D	F	A	C	E	C		E	B	
Approach Vol, veh/h		116			105			1010	A		790	A
Approach Delay, s/veh		44.5			260.0			28.4			17.9	
Approach LOS		D			F			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	74.6		29.0	7.7	75.4		29.0				
Change Period (Y+Rc), s	4.5	6.0		4.5	4.5	6.0		4.5				
Max Green Setting (Gmax), s	5.5	80.0		24.5	5.5	80.0		24.5				
Max Q Clear Time (g_c+I1), s	5.2	35.6		26.5	4.1	56.5		26.5				
Green Ext Time (p_c), s	0.0	11.9		0.0	0.0	13.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			37.3									
HCM 6th LOS			D									

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	75	85	0	15	45	915	130	30	720	25
Future Volume (vph)	30	5	75	85	0	15	45	915	130	30	720	25
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1667	1441		1660	1445	1599	1667	1457	1662	1683	1488
Flt Permitted		0.71	1.00		0.73	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1242	1441		1280	1445	1599	1667	1457	1662	1683	1488
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	5	79	89	0	16	47	963	137	32	758	26
RTOR Reduction (vph)	0	0	70	0	0	14	0	0	27	0	0	8
Lane Group Flow (vph)	0	37	9	0	89	2	47	963	110	32	758	18
Confl. Peds. (#/hr)	4		1	1		4						
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	4%	5%	0%	0%	4%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)		9.9	9.9		9.9	9.9	4.2	61.3	61.3	2.6	59.7	59.7
Effective Green, g (s)		10.4	10.4		10.4	10.4	4.7	63.3	63.3	3.1	61.7	61.7
Actuated g/C Ratio		0.12	0.12		0.12	0.12	0.05	0.71	0.71	0.03	0.69	0.69
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.5	4.8	4.8	2.5	4.8	4.8
Lane Grp Cap (vph)		145	168		149	169	84	1188	1038	58	1169	1033
v/s Ratio Prot							c0.03	c0.58		0.02	0.45	
v/s Ratio Perm		0.03	0.01		c0.07	0.00			0.08			0.01
v/c Ratio		0.26	0.06		0.60	0.01	0.56	0.81	0.11	0.55	0.65	0.02
Uniform Delay, d1		35.7	34.8		37.2	34.7	41.0	8.7	4.0	42.2	7.5	4.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.7	0.1		5.3	0.0	6.3	4.8	0.1	8.8	1.6	0.0
Delay (s)		36.4	34.9		42.5	34.7	47.4	13.5	4.0	51.0	9.2	4.2
Level of Service		D	C		D	C	D	B	A	D	A	A
Approach Delay (s)		35.4			41.3			13.7			10.6	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	130	60	20	1150	970	55
Future Vol, veh/h	130	60	20	1150	970	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	300	-	-	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	11	5	4	4
Mvmt Flow	138	64	21	1223	1032	59

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2297	1032	1091	0	-	0
Stage 1	1032	-	-	-	-	-
Stage 2	1265	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.21	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.299	-	-	-
Pot Cap-1 Maneuver	~ 43	285	607	-	-	-
Stage 1	347	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 41	285	607	-	-	-
Mov Cap-2 Maneuver	154	-	-	-	-	-
Stage 1	335	-	-	-	-	-
Stage 2	268	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	78.7	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	607	-	154	285	-	-
HCM Lane V/C Ratio	0.035	-	0.898	0.224	-	-
HCM Control Delay (s)	11.1	-	105.3	21.2	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	6.3	0.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	170	25	220	140	250	60	825	205	330	870	70
Future Volume (veh/h)	170	170	25	220	140	250	60	825	205	330	870	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1654	1723	1723	1750	1695	1614	1695	1709	1709
Adj Flow Rate, veh/h	181	181	27	234	149	266	64	878	0	351	926	74
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	7	2	2	0	4	10	4	3	3
Cap, veh/h	217	232	35	265	337	276	88	1086		308	1445	115
Arrive On Green	0.13	0.16	0.15	0.17	0.20	0.20	0.05	0.34	0.00	0.19	0.48	0.47
Sat Flow, veh/h	1654	1467	219	1576	1723	1411	1667	3221	1367	1615	3039	243
Grp Volume(v), veh/h	181	0	208	234	149	266	64	878	0	351	495	505
Grp Sat Flow(s),veh/h/ln	1654	0	1685	1576	1723	1411	1667	1611	1367	1615	1624	1658
Q Serve(g_s), s	11.7	0.0	13.0	16.0	8.4	20.6	4.2	27.3	0.0	21.0	25.3	25.3
Cycle Q Clear(g_c), s	11.7	0.0	13.0	16.0	8.4	20.6	4.2	27.3	0.0	21.0	25.3	25.3
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	217	0	267	265	337	276	88	1086		308	772	788
V/C Ratio(X)	0.84	0.00	0.78	0.88	0.44	0.96	0.73	0.81		1.14	0.64	0.64
Avail Cap(c_a), veh/h	286	0	322	272	337	276	167	1086		308	772	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.60	0.60	0.60
Uniform Delay (d), s/veh	46.6	0.0	44.5	44.7	39.0	43.9	51.3	33.2	0.0	44.5	21.8	21.8
Incr Delay (d2), s/veh	13.7	0.0	8.9	26.2	0.9	44.4	8.2	6.5	0.0	83.8	2.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	6.1	8.1	3.6	10.6	1.9	11.6	0.0	15.6	10.1	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	0.0	53.4	70.9	39.9	88.3	59.5	39.7	0.0	128.3	24.2	24.3
LnGrp LOS	E	A	D	E	D	F	E	D		F	C	C
Approach Vol, veh/h		389			649			942	A		1351	
Approach Delay, s/veh		56.6			70.9			41.0			51.3	
Approach LOS		E			E			D			D	

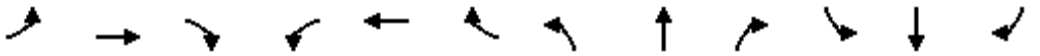
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	56.3	18.4	25.5	25.0	41.1	22.5	21.4
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	10.5	42.0	18.5	20.5	20.5	32.0	18.5	20.5
Max Q Clear Time (g_c+I1), s	6.2	27.3	13.7	22.6	23.0	29.3	18.0	15.0
Green Ext Time (p_c), s	0.0	9.3	0.2	0.0	0.0	2.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	195	35	255	165	280	75	900	215	335	975	80
Future Volume (veh/h)	205	195	35	255	165	280	75	900	215	335	975	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1695	1654	1723	1723	1750	1695	1614	1695	1709	1709
Adj Flow Rate, veh/h	218	207	37	271	176	298	80	957	0	356	1037	85
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	4	7	2	2	0	4	10	4	3	3
Cap, veh/h	250	246	44	298	364	299	107	1114		496	1334	109
Arrive On Green	0.15	0.17	0.17	0.19	0.21	0.21	0.02	0.11	0.00	0.05	0.15	0.14
Sat Flow, veh/h	1654	1424	255	1576	1723	1414	1667	3221	1367	3132	3032	248
Grp Volume(v), veh/h	218	0	244	271	176	298	80	957	0	356	555	567
Grp Sat Flow(s),veh/h/ln	1654	0	1678	1576	1723	1414	1667	1611	1367	1566	1624	1657
Q Serve(g_s), s	15.5	0.0	16.9	20.2	10.8	25.3	5.7	35.0	0.0	13.4	39.5	39.6
Cycle Q Clear(g_c), s	15.5	0.0	16.9	20.2	10.8	25.3	5.7	35.0	0.0	13.4	39.5	39.6
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	250	0	291	298	364	299	107	1114		496	714	729
V/C Ratio(X)	0.87	0.00	0.84	0.91	0.48	1.00	0.75	0.86		0.72	0.78	0.78
Avail Cap(c_a), veh/h	317	0	322	302	364	299	111	1114		496	714	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.43	0.43	0.43
Uniform Delay (d), s/veh	49.8	0.0	48.0	47.6	41.6	47.3	57.8	50.3	0.0	54.2	45.6	45.7
Incr Delay (d2), s/veh	17.6	0.0	15.8	29.0	1.0	51.6	22.2	8.7	0.0	3.9	3.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	8.4	10.3	4.7	13.2	3.2	16.6	0.0	5.9	18.0	18.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	0.0	63.9	76.6	42.6	98.9	80.0	58.9	0.0	58.1	49.3	49.2
LnGrp LOS	E	A	E	E	D	F	F	E		E	D	D
Approach Vol, veh/h		462			745			1037	A		1478	
Approach Delay, s/veh		65.5			77.5			60.6			51.4	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	56.8	22.2	29.3	23.0	45.5	26.7	24.8
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	7.5	49.0	22.5	22.5	18.5	38.0	22.5	22.5
Max Q Clear Time (g_c+I1), s	7.7	41.6	17.5	27.3	15.4	37.0	22.2	18.9
Green Ext Time (p_c), s	0.0	5.7	0.2	0.0	0.8	0.8	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	60.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

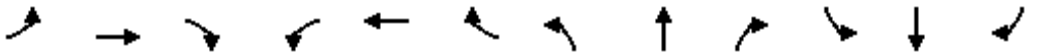
MOVEMENT SUMMARY

Site: 101 [US 101/US 20 Summer 2040 Baseline 30 HV]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: US 101												
3	L2	80	0.0	0.789	27.7	LOS D	8.4	214.6	0.88	1.45	2.12	20.0
8	T1	957	4.0	0.789	26.7	LOS D	8.7	224.0	0.87	1.46	2.12	20.0
18	R2	229	10.0	0.292	7.9	LOS A	1.1	29.0	0.56	0.55	0.56	24.7
Approach		1266	4.8	0.789	23.4	LOS C	8.7	224.0	0.81	1.29	1.84	20.7
East: US 20												
1	L2	271	7.0	0.615	23.4	LOS C	3.2	84.6	0.83	1.07	1.53	21.3
6	T1	176	2.0	0.437	17.9	LOS C	1.9	47.4	0.80	0.92	1.16	23.1
16	R2	298	2.0	0.601	20.6	LOS C	3.4	85.1	0.82	1.04	1.45	21.6
Approach		745	3.8	0.615	21.0	LOS C	3.4	85.1	0.82	1.03	1.41	21.9
North: US 101												
7	L2	356	4.0	0.908	36.7	LOS E	19.7	505.9	1.00	2.10	3.08	19.2
4	T1	1037	3.0	0.908	35.2	LOS E	20.9	534.3	1.00	2.11	3.08	18.5
14	R2	85	3.0	0.908	34.4	LOS D	20.9	534.3	1.00	2.12	3.09	18.3
Approach		1479	3.2	0.908	35.5	LOS E	20.9	534.3	1.00	2.11	3.08	18.7
West: Olive												
5	L2	218	1.0	0.801	54.7	LOS F	4.7	118.3	0.95	1.42	2.25	15.9
2	T1	207	1.0	0.760	43.1	LOS E	4.3	108.9	0.93	1.35	2.07	18.4
12	R2	37	4.0	0.760	43.4	LOS E	4.3	108.9	0.93	1.35	2.07	17.1
Approach		463	1.2	0.801	48.6	LOS E	4.7	118.3	0.94	1.38	2.15	17.0
All Vehicles		3952	3.6	0.908	30.4	LOS D	20.9	534.3	0.90	1.56	2.26	19.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	255	165	280	75	1105	315	395	915	80
Future Volume (veh/h)	0	0	0	255	165	280	75	1105	315	395	915	80
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1654	1723	1723	1750	1695	1614	1695	1709	1709
Adj Flow Rate, veh/h				271	176	298	80	1176	0	420	973	85
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				7	2	2	0	4	10	4	3	3
Cap, veh/h				355	388	319	105	1315		431	1845	161
Arrive On Green				0.22	0.22	0.22	0.13	0.82	0.00	0.09	0.20	0.20
Sat Flow, veh/h				1576	1723	1417	1667	3221	1367	1615	3016	263
Grp Volume(v), veh/h				271	176	298	80	1176	0	420	524	534
Grp Sat Flow(s),veh/h/ln				1576	1723	1417	1667	1611	1367	1615	1624	1656
Q Serve(g_s), s				19.3	10.6	24.8	5.6	29.8	0.0	31.1	34.6	34.6
Cycle Q Clear(g_c), s				19.3	10.6	24.8	5.6	29.8	0.0	31.1	34.6	34.6
Prop In Lane				1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h				355	388	319	105	1315		431	993	1013
V/C Ratio(X)				0.76	0.45	0.93	0.76	0.89		0.98	0.53	0.53
Avail Cap(c_a), veh/h				355	388	319	181	1315		431	993	1013
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)				1.00	1.00	1.00	0.68	0.68	0.00	0.43	0.43	0.43
Uniform Delay (d), s/veh				43.5	40.1	45.6	51.5	9.2	0.0	54.3	32.4	32.4
Incr Delay (d2), s/veh				9.2	0.6	33.6	5.6	6.9	0.0	23.1	0.9	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.4	4.6	20.6	2.4	4.8	0.0	16.3	15.3	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.7	40.8	79.2	57.1	16.1	0.0	77.4	33.3	33.3
LnGrp LOS				D	D	E	E	B		E	C	C
Approach Vol, veh/h					745			1256	A		1478	
Approach Delay, s/veh					60.5			18.7			45.8	
Approach LOS					E			B			D	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	11.6	77.4		31.0	36.0	53.0
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0
Max Green Setting (Gmax), s	12.5	67.0		26.5	31.5	48.0
Max Q Clear Time (g_c+I1), s	7.6	36.6		26.8	33.1	31.8
Green Ext Time (p_c), s	0.0	16.0		0.0	0.0	11.7

Intersection Summary		
HCM 6th Ctrl Delay		39.2
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	115	55	10	10	120	0	1080	15	0	1100	55
Future Volume (veh/h)	320	115	55	10	10	120	0	1080	15	0	1100	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.99	0.97		0.96	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1559	1750	1723	0	1695	1750	0	1723	1723
Adj Flow Rate, veh/h	352	126	60	11	11	132	0	1187	16	0	1209	60
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	14	0	2	0	4	0	0	2	2
Cap, veh/h	486	407	194	39	21	166	0	1849	25	0	1802	89
Arrive On Green	0.20	0.36	0.36	0.13	0.13	0.13	0.00	1.00	1.00	0.00	1.00	1.00
Sat Flow, veh/h	1667	1115	531	50	156	1239	0	3339	44	0	3256	157
Grp Volume(v), veh/h	352	0	186	154	0	0	0	587	616	0	624	645
Grp Sat Flow(s),veh/h/ln	1667	0	1646	1445	0	0	0	1611	1687	0	1637	1691
Q Serve(g_s), s	20.9	0.0	9.7	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.9	0.0	9.7	12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.32	0.07		0.86	0.00		0.03	0.00		0.09
Lane Grp Cap(c), veh/h	486	0	601	226	0	0	0	915	959	0	930	961
V/C Ratio(X)	0.72	0.00	0.31	0.68	0.00	0.00	0.00	0.64	0.64	0.00	0.67	0.67
Avail Cap(c_a), veh/h	587	0	741	260	0	0	0	915	959	0	930	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.88	0.88	0.00	0.77	0.77
Uniform Delay (d), s/veh	32.3	0.0	27.3	50.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.5	0.0	0.3	5.8	0.0	0.0	0.0	3.0	2.9	0.0	3.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	0.0	3.9	4.9	0.0	0.0	0.0	0.8	0.8	0.0	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	0.0	27.6	56.1	0.0	0.0	0.0	3.0	2.9	0.0	3.0	2.9
LnGrp LOS	D	A	C	E	A	A	A	A	A	A	A	A
Approach Vol, veh/h		538			154			1203			1269	
Approach Delay, s/veh		33.0			56.1			3.0			2.9	
Approach LOS		C			E			A			A	

Timer - Assigned Phs	2	4	6	7	8
Phs Duration (G+Y+Rc), s	72.2	47.8	72.2	27.7	20.1
Change Period (Y+Rc), s	5.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	57.0	54.0	57.0	31.0	19.0
Max Q Clear Time (g_c+I1), s	2.0	11.7	2.0	22.9	14.3
Green Ext Time (p_c), s	12.1	1.3	13.3	0.7	0.3

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	25	35	70	40	45	30	955	10	45	1080	20
Future Volume (veh/h)	40	25	35	70	40	45	30	955	10	45	1080	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1641	1750	1750	1709	1682	1750	1750	1695	1750	1750	1723	1750
Adj Flow Rate, veh/h	41	26	36	72	41	46	31	985	10	46	1113	21
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	0	0	3	5	0	0	4	0	0	2	0
Cap, veh/h	106	68	71	125	64	59	69	2325	24	58	2315	44
Arrive On Green	0.14	0.15	0.14	0.14	0.15	0.14	0.04	0.71	0.70	0.07	1.00	1.00
Sat Flow, veh/h	445	470	492	564	442	410	1667	3266	33	1667	3283	62
Grp Volume(v), veh/h	103	0	0	159	0	0	31	486	509	46	555	579
Grp Sat Flow(s),veh/h/ln	1406	0	0	1416	0	0	1667	1611	1689	1667	1637	1708
Q Serve(g_s), s	0.0	0.0	0.0	5.1	0.0	0.0	2.2	14.9	14.9	3.3	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	0.0	13.0	0.0	0.0	2.2	14.9	14.9	3.3	0.0	0.0
Prop In Lane	0.40		0.35	0.45		0.29	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	240	0	0	243	0	0	69	1147	1202	58	1154	1204
V/C Ratio(X)	0.43	0.00	0.00	0.65	0.00	0.00	0.45	0.42	0.42	0.79	0.48	0.48
Avail Cap(c_a), veh/h	405	0	0	402	0	0	69	1147	1202	139	1154	1204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.68	0.68	0.68
Uniform Delay (d), s/veh	47.2	0.0	0.0	49.5	0.0	0.0	56.1	7.1	7.1	55.4	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	2.2	0.0	0.0	11.3	1.1	1.1	28.8	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	4.8	0.0	0.0	1.1	5.2	5.4	1.8	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	0.0	0.0	51.7	0.0	0.0	67.5	8.3	8.2	84.2	1.0	0.9
LnGrp LOS	D	A	A	D	A	A	E	A	A	F	A	A
Approach Vol, veh/h		103			159			1026			1180	
Approach Delay, s/veh		48.1			51.7			10.0			4.2	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	88.6		21.4	9.2	89.4		21.4
Change Period (Y+Rc), s	5.0	5.0		4.5	5.0	5.0		4.5
Max Green Setting (Gmax), s	5.0	70.0		30.5	10.0	65.0		30.5
Max Q Clear Time (g_c+I1), s	4.2	2.0		15.0	5.3	16.9		10.0
Green Ext Time (p_c), s	0.0	25.0		0.6	0.1	20.2		0.4

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	600	105	120	625	5	20	5	305	5	10	40
Future Vol, veh/h	15	600	105	120	625	5	20	5	305	5	10	40
Conflicting Peds, #/hr	1	0	1	1	0	1	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	0	100	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	6	5	4	4	0	6	0	3	0	0	3
Mvmt Flow	16	632	111	126	658	5	21	5	321	5	11	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	664	0	0	744	0	0	1605	1581	634	1798	1690	663
Stage 1	-	-	-	-	-	-	665	665	-	914	914	-
Stage 2	-	-	-	-	-	-	940	916	-	884	776	-
Critical Hdwy	4.1	-	-	4.14	-	-	7.16	6.5	6.23	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.236	-	-	3.554	4	3.327	3.5	4	3.327
Pot Cap-1 Maneuver	935	-	-	855	-	-	83	110	477	63	94	459
Stage 1	-	-	-	-	-	-	443	461	-	330	355	-
Stage 2	-	-	-	-	-	-	311	354	-	343	410	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	934	-	-	854	-	-	59	92	476	17	79	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	59	92	-	17	79	-
Stage 1	-	-	-	-	-	-	435	453	-	324	302	-
Stage 2	-	-	-	-	-	-	232	301	-	108	403	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.6	32	71.6
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	64	476	934	-	-	854	-	-	108
HCM Lane V/C Ratio	0.411	0.674	0.017	-	-	0.148	-	-	0.536
HCM Control Delay (s)	96	26.8	8.9	-	-	9.9	-	-	71.6
HCM Lane LOS	F	D	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.6	5	0.1	-	-	0.5	-	-	2.5

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	20	0	0	120	0	1080	15	0	1135	55
Future Vol, veh/h	0	0	20	0	0	120	0	1080	15	0	1135	55
Conflicting Peds, #/hr	0	0	17	17	0	0	22	0	11	11	0	22
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	14	0	2	0	4	0	4	2	2
Mvmt Flow	0	0	22	0	0	132	0	1187	16	0	1247	60

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	693	-	-	613	1329	0	0	1214	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.94	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.32	2.2	-	-	2.24	-	-
Pot Cap-1 Maneuver	0	0	390	0	0	435	526	-	-	559	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	376	-	-	430	515	-	-	553	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	17	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	515	-	-	376	430	553	-	-
HCM Lane V/C Ratio	-	-	-	0.058	0.307	-	-	-
HCM Control Delay (s)	0	-	-	15.2	17	0	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.3	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	25	35	80	50	45	30	965	10	45	1080	20
Future Volume (veh/h)	40	25	35	80	50	45	30	965	10	45	1080	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1641	1750	1750	1709	1682	1750	1750	1695	1750	1750	1723	1750
Adj Flow Rate, veh/h	41	26	36	82	52	46	31	995	10	46	1113	21
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	0	0	3	5	0	0	4	0	0	2	0
Cap, veh/h	111	71	75	134	74	56	69	2288	23	58	2277	43
Arrive On Green	0.15	0.16	0.15	0.15	0.16	0.15	0.04	0.70	0.69	0.07	1.00	1.00
Sat Flow, veh/h	439	453	479	579	473	361	1667	3266	33	1667	3283	62
Grp Volume(v), veh/h	103	0	0	180	0	0	31	491	514	46	555	579
Grp Sat Flow(s),veh/h/ln	1371	0	0	1412	0	0	1667	1611	1689	1667	1637	1708
Q Serve(g_s), s	0.0	0.0	0.0	6.9	0.0	0.0	2.2	15.7	15.7	3.3	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	0.0	14.9	0.0	0.0	2.2	15.7	15.7	3.3	0.0	0.0
Prop In Lane	0.40		0.35	0.46		0.26	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	251	0	0	259	0	0	69	1128	1183	58	1135	1185
V/C Ratio(X)	0.41	0.00	0.00	0.70	0.00	0.00	0.45	0.43	0.43	0.79	0.49	0.49
Avail Cap(c_a), veh/h	398	0	0	403	0	0	69	1128	1183	139	1135	1185
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	0.0	0.0	49.1	0.0	0.0	56.1	7.7	7.7	55.4	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	2.5	0.0	0.0	11.3	1.2	1.2	39.1	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	5.5	0.0	0.0	1.1	5.5	5.8	2.0	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	0.0	0.0	51.6	0.0	0.0	67.5	9.0	8.9	94.5	1.5	1.4
LnGrp LOS	D	A	A	D	A	A	E	A	A	F	A	A
Approach Vol, veh/h		103			180			1036			1180	
Approach Delay, s/veh		46.8			51.6			10.7			5.1	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	87.2		22.8	9.2	88.1		22.8				
Change Period (Y+Rc), s	5.0	5.0		4.5	5.0	5.0		4.5				
Max Green Setting (Gmax), s	5.0	70.0		30.5	10.0	65.0		30.5				
Max Q Clear Time (g_c+I1), s	4.2	2.0		16.9	5.3	17.7		10.0				
Green Ext Time (p_c), s	0.0	25.0		0.7	0.1	20.3		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		12.5	
HCM 6th LOS		B	

Notes

User approved pedestrian interval to be less than phase max green.

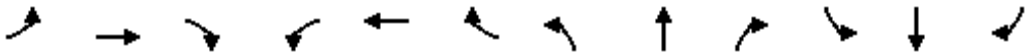
Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	695	45	120	625	5	20	5	210	5	10	40
Future Vol, veh/h	15	695	45	120	625	5	20	5	210	5	10	40
Conflicting Peds, #/hr	1	0	1	1	0	1	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	0	100	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	6	5	4	4	0	6	0	3	0	0	3
Mvmt Flow	16	732	47	126	658	5	21	5	221	5	11	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	664	0	0	780	0	0	1705	1681	734	1816	1726	663
Stage 1	-	-	-	-	-	-	765	765	-	914	914	-
Stage 2	-	-	-	-	-	-	940	916	-	902	812	-
Critical Hdwy	4.1	-	-	4.14	-	-	7.16	6.5	6.23	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.236	-	-	3.554	4	3.327	3.5	4	3.327
Pot Cap-1 Maneuver	935	-	-	828	-	-	71	96	418	61	90	459
Stage 1	-	-	-	-	-	-	390	415	-	330	355	-
Stage 2	-	-	-	-	-	-	311	354	-	335	395	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	934	-	-	827	-	-	50	80	417	24	75	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	80	-	24	75	-
Stage 1	-	-	-	-	-	-	383	408	-	324	301	-
Stage 2	-	-	-	-	-	-	231	300	-	153	388	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.6	33.7	54.5
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	54	417	934	-	-	827	-	-	128
HCM Lane V/C Ratio	0.487	0.53	0.017	-	-	0.153	-	-	0.452
HCM Control Delay (s)	123.4	23	8.9	-	-	10.1	-	-	54.5
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.9	3	0.1	-	-	0.5	-	-	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	835	135	75	570	195	125	80	75	175	65	40
Future Volume (veh/h)	60	835	135	75	570	195	125	80	75	175	65	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1723	1723	1709	1709	1654	1723	1723	1695	1736	1750	1750
Adj Flow Rate, veh/h	65	908	147	82	620	212	136	87	82	190	71	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	2	3	3	7	2	2	4	1	0	0
Cap, veh/h	88	1396	226	112	866	711	377	233	219	327	291	176
Arrive On Green	0.06	0.50	0.48	0.07	0.51	0.51	0.28	0.29	0.29	0.28	0.29	0.28
Sat Flow, veh/h	1537	2821	457	1628	1709	1402	1270	813	767	1221	1017	616
Grp Volume(v), veh/h	65	527	528	82	620	212	136	0	169	190	0	114
Grp Sat Flow(s),veh/h/ln	1537	1637	1641	1628	1709	1402	1270	0	1580	1221	0	1633
Q Serve(g_s), s	3.3	19.2	19.3	4.0	22.5	7.0	7.4	0.0	6.8	11.9	0.0	4.3
Cycle Q Clear(g_c), s	3.3	19.2	19.3	4.0	22.5	7.0	11.7	0.0	6.8	18.7	0.0	4.3
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.49	1.00		0.38
Lane Grp Cap(c), veh/h	88	810	812	112	866	711	377	0	452	327	0	467
V/C Ratio(X)	0.74	0.65	0.65	0.73	0.72	0.30	0.36	0.00	0.37	0.58	0.00	0.24
Avail Cap(c_a), veh/h	154	1002	1004	224	1110	911	521	0	631	466	0	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	15.1	15.2	36.5	15.3	11.5	26.9	0.0	22.9	30.8	0.0	22.0
Incr Delay (d2), s/veh	8.6	3.4	3.4	6.6	4.3	0.9	0.4	0.0	0.4	1.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.2	7.3	1.7	8.9	2.2	2.3	0.0	2.5	3.6	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	18.5	18.6	43.1	19.6	12.4	27.3	0.0	23.2	32.4	0.0	22.3
LnGrp LOS	D	B	B	D	B	B	C	A	C	C	A	C
Approach Vol, veh/h		1120			914			305			304	
Approach Delay, s/veh		20.1			20.0			25.0			28.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	43.6		26.9	8.6	44.6		26.9				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	48.0		31.5	7.5	51.0		31.5				
Max Q Clear Time (g_c+I1), s	6.0	21.3		20.7	5.3	24.5		13.7				
Green Ext Time (p_c), s	0.0	17.4		1.0	0.0	13.3		1.1				

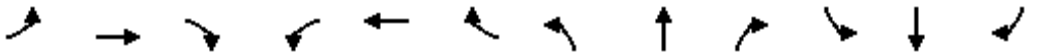
Intersection Summary			
HCM 6th Ctrl Delay		21.6	
HCM 6th LOS		C	

Notes

User approved pedestrian interval to be less than phase max green.

SECTION 3: OPERATIONS RESULTS

2040 US 101 AND US 20 COUPLETS RESULTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	300	35	295	125	605	70	1000	55	380	855	70
Future Volume (veh/h)	280	300	35	295	125	605	70	1000	55	380	855	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1695	1654	1723	1723	1750	1695	1614	1695	1709	1709
Adj Flow Rate, veh/h	298	319	37	314	133	644	74	1064	0	404	910	74
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	4	7	2	2	0	4	10	4	3	3
Cap, veh/h	289	291	34	276	330	270	99	913		350	1336	109
Arrive On Green	0.17	0.19	0.19	0.17	0.19	0.19	0.06	0.28	0.00	0.43	0.88	0.86
Sat Flow, veh/h	1654	1521	176	1576	1723	1410	1667	3221	1367	1615	3034	247
Grp Volume(v), veh/h	298	0	356	314	133	644	74	1064	0	404	487	497
Grp Sat Flow(s),veh/h/ln	1654	0	1697	1576	1723	1410	1667	1611	1367	1615	1624	1657
Q Serve(g_s), s	21.0	0.0	23.0	21.0	8.1	23.0	5.2	34.0	0.0	26.0	10.7	10.9
Cycle Q Clear(g_c), s	21.0	0.0	23.0	21.0	8.1	23.0	5.2	34.0	0.0	26.0	10.7	10.9
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	289	0	325	276	330	270	99	913		350	715	730
V/C Ratio(X)	1.03	0.00	1.09	1.14	0.40	2.38	0.74	1.17		1.15	0.68	0.68
Avail Cap(c_a), veh/h	289	0	325	276	330	270	153	913		350	715	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.45	0.45	0.45
Uniform Delay (d), s/veh	49.5	0.0	48.5	49.5	42.5	48.5	55.5	43.0	0.0	34.0	4.6	4.8
Incr Delay (d2), s/veh	60.8	0.0	77.6	96.9	0.6	633.9	7.9	86.6	0.0	84.0	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.6	0.0	16.8	15.6	3.5	55.7	2.4	24.5	0.0	16.5	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.3	0.0	126.2	146.4	43.1	682.4	63.5	129.6	0.0	118.0	7.0	7.1
LnGrp LOS	F	A	F	F	D	F	E	F		F	A	A
Approach Vol, veh/h		654			1091			1138	A		1388	
Approach Delay, s/veh		118.9			450.2			125.3			39.3	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	56.8	25.0	27.0	30.0	38.0	25.0	27.0
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	10.5	48.0	20.5	22.5	25.5	33.0	20.5	22.5
Max Q Clear Time (g_c+I1), s	7.2	12.9	23.0	25.0	28.0	36.0	23.0	25.0
Green Ext Time (p_c), s	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	179.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

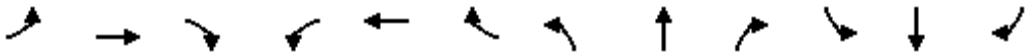
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	20	0	0	1025	0	0	0	0	1145	45
Future Vol, veh/h	0	0	20	0	0	1025	0	0	0	0	1145	45
Conflicting Peds, #/hr	0	0	17	17	0	0	22	0	11	11	0	22
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	16979	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	14	0	2	0	4	0	4	2	2
Mvmt Flow	0	0	22	0	0	1126	0	0	0	0	1258	49

Major/Minor	Minor2					Major2		
Conflicting Flow All	1305	1305	693			-	-	0
Stage 1	1305	1305	-			-	-	-
Stage 2	0	0	-			-	-	-
Critical Hdwy	6.8	6.5	6.9			-	-	-
Critical Hdwy Stg 1	5.8	5.5	-			-	-	-
Critical Hdwy Stg 2	-	-	-			-	-	-
Follow-up Hdwy	3.5	4	3.3			-	-	-
Pot Cap-1 Maneuver	154	162	390			0	-	-
Stage 1	222	232	-			0	-	-
Stage 2	-	-	-			0	-	-
Platoon blocked, %							-	-
Mov Cap-1 Maneuver	148	0	382			-	-	-
Mov Cap-2 Maneuver	148	0	-			-	-	-
Stage 1	217	0	-			-	-	-
Stage 2	-	0	-			-	-	-

Approach	EB	SB
HCM Control Delay, s	15	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	382	-	-
HCM Lane V/C Ratio	0.058	-	-
HCM Control Delay (s)	15	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	30	50	70	60	0	0	0	0	45	1085	20
Future Volume (veh/h)	0	30	50	70	60	0	0	0	0	45	1085	20
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.98		1.00				1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1750	1750	1709	1682	0				1750	1723	1750
Adj Flow Rate, veh/h	0	31	52	72	62	0				46	1119	21
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	3	5	0				0	2	0
Cap, veh/h	0	89	149	126	94	0				99	2521	50
Arrive On Green	0.00	0.15	0.15	0.15	0.15	0.00				0.77	0.78	0.77
Sat Flow, veh/h	0	579	972	522	610	0				127	3234	64
Grp Volume(v), veh/h	0	0	83	134	0	0				622	0	564
Grp Sat Flow(s),veh/h/ln	0	0	1552	1132	0	0				1716	0	1708
Q Serve(g_s), s	0.0	0.0	5.8	8.9	0.0	0.0				15.1	0.0	13.0
Cycle Q Clear(g_c), s	0.0	0.0	5.8	14.7	0.0	0.0				15.1	0.0	13.0
Prop In Lane	0.00		0.63	0.54		0.00				0.07		0.04
Lane Grp Cap(c), veh/h	0	0	239	215	0	0				1338	0	1332
V/C Ratio(X)	0.00	0.00	0.35	0.62	0.00	0.00				0.47	0.00	0.42
Avail Cap(c_a), veh/h	0	0	401	365	0	0				1338	0	1332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	45.5	50.4	0.0	0.0				4.6	0.0	4.4
Incr Delay (d2), s/veh	0.0	0.0	0.6	2.2	0.0	0.0				1.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.3	4.1	0.0	0.0				5.0	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	46.2	52.6	0.0	0.0				5.8	0.0	5.3
LnGrp LOS	A	A	D	D	A	A				A	A	A
Approach Vol, veh/h		83			134						1186	
Approach Delay, s/veh		46.2			52.6						5.6	
Approach LOS		D			D						A	

Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		97.5		22.5				22.5				
Change Period (Y+Rc), s		5.0		4.5				4.5				
Max Green Setting (Gmax), s		80.0		30.5				30.5				
Max Q Clear Time (g_c+I1), s		17.1		16.7				7.8				
Green Ext Time (p_c), s		26.3		0.5				0.3				

Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	18.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	110	10	0	35	50	1120	10	10	1130	35
Future Vol, veh/h	25	0	110	10	0	35	50	1120	10	10	1130	35
Conflicting Peds, #/hr	10	0	0	0	0	10	13	0	8	8	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	4	3	0	0	2	0
Mvmt Flow	28	0	122	11	0	39	56	1244	11	11	1256	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2055	2686	661	2020	2700	646	1308	0	0	1263	0	0
Stage 1	1311	1311	-	1370	1370	-	-	-	-	-	-	-
Stage 2	744	1375	-	650	1330	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.18	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.24	-	-	2.2	-	-
Pot Cap-1 Maneuver	33	22	410	35	22	419	514	-	-	557	-	-
Stage 1	171	231	-	157	216	-	-	-	-	-	-	-
Stage 2	377	215	-	429	226	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 25	18	405	21	18	412	508	-	-	553	-	-
Mov Cap-2 Maneuver	~ 25	18	-	21	18	-	-	-	-	-	-	-
Stage 1	150	212	-	139	191	-	-	-	-	-	-	-
Stage 2	301	190	-	278	207	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 306.6	106.3	0.5	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	508	-	-	106	80	553	-	-
HCM Lane V/C Ratio	0.109	-	-	1.415	0.625	0.02	-	-
HCM Control Delay (s)	13	-	-	$ 306.6	106.3	11.6	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	10.7	2.8	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

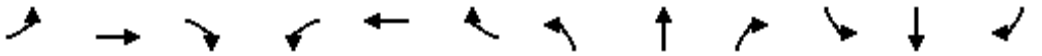
Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	645	75	0	0	0	0	25	325	5	95	0
Future Vol, veh/h	15	645	75	0	0	0	0	25	325	5	95	0
Conflicting Peds, #/hr	1	0	1	1	0	1	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	6	5	4	4	0	6	0	3	0	0	3
Mvmt Flow	16	679	79	0	0	0	0	26	342	5	100	0

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	1	0	0	-	753	381	387	792	-
Stage 1	-	-	-	-	752	-	1	1	-
Stage 2	-	-	-	-	1	-	386	791	-
Critical Hdwy	4.1	-	-	-	6.5	6.96	7.5	6.5	-
Critical Hdwy Stg 1	-	-	-	-	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	-	4	3.33	3.5	4	-
Pot Cap-1 Maneuver	1635	-	-	0	341	614	551	324	0
Stage 1	-	-	-	0	421	-	-	-	0
Stage 2	-	-	-	0	-	-	614	404	0
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	1633	-	-	-	335	613	226	318	-
Mov Cap-2 Maneuver	-	-	-	-	335	-	226	318	-
Stage 1	-	-	-	-	413	-	-	-	-
Stage 2	-	-	-	-	-	-	250	397	-

Approach	EB	NB	SB
HCM Control Delay, s	0.2	21.5	22.3
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	579	1633	-	-	312
HCM Lane V/C Ratio	0.636	0.01	-	-	0.337
HCM Control Delay (s)	21.5	7.2	0.1	-	22.3
HCM Lane LOS	C	A	A	-	C
HCM 95th %tile Q(veh)	4.5	0	-	-	1.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	875	205	75	750	15	180	50	70	155	65	40
Future Volume (veh/h)	60	875	205	75	750	15	180	50	70	155	65	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1723	1723	1709	1709	1654	1723	1723	1695	1736	1750	1750
Adj Flow Rate, veh/h	65	951	223	82	815	16	196	54	76	168	71	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	2	3	3	7	2	2	4	1	0	0
Cap, veh/h	87	1324	310	110	879	721	338	76	447	149	56	27
Arrive On Green	0.06	0.50	0.49	0.07	0.51	0.51	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1537	2632	616	1628	1709	1402	882	243	1430	298	179	86
Grp Volume(v), veh/h	65	591	583	82	815	16	250	0	76	282	0	0
Grp Sat Flow(s),veh/h/ln	1537	1637	1612	1628	1709	1402	1125	0	1430	562	0	0
Q Serve(g_s), s	4.3	28.8	29.0	5.1	45.4	0.6	0.0	0.0	4.0	11.2	0.0	0.0
Cycle Q Clear(g_c), s	4.3	28.8	29.0	5.1	45.4	0.6	20.3	0.0	4.0	31.5	0.0	0.0
Prop In Lane	1.00		0.38	1.00		1.00	0.78		1.00	0.60		0.15
Lane Grp Cap(c), veh/h	87	823	811	110	879	721	408	0	447	229	0	0
V/C Ratio(X)	0.75	0.72	0.72	0.75	0.93	0.02	0.61	0.00	0.17	1.23	0.00	0.00
Avail Cap(c_a), veh/h	90	823	811	175	901	739	408	0	447	229	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	47.6	19.8	20.0	46.9	23.1	12.2	31.4	0.0	25.6	44.6	0.0	0.0
Incr Delay (d2), s/veh	26.8	4.8	5.0	7.3	16.8	0.0	2.4	0.0	0.1	136.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	11.5	11.5	2.3	21.1	0.2	5.8	0.0	1.4	14.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.4	24.6	25.0	54.2	39.9	12.3	33.8	0.0	25.7	181.3	0.0	0.0
LnGrp LOS	E	C	C	D	D	B	C	A	C	F	A	A
Approach Vol, veh/h		1239			913			326			282	
Approach Delay, s/veh		27.4			40.7			31.9			181.3	
Approach LOS		C			D			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	55.6		36.0	9.8	56.7		36.0				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	48.0		31.5	5.5	53.0		31.5				
Max Q Clear Time (g_c+I1), s	7.1	31.0		33.5	6.3	47.4		22.3				
Green Ext Time (p_c), s	0.0	13.3		0.0	0.0	4.3		1.0				

Intersection Summary		
HCM 6th Ctrl Delay		48.0
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	19.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰↑↱				
Traffic Vol, veh/h	10	55	0	0	70	60	50	1315	25	0	0	0
Future Vol, veh/h	10	55	0	0	70	60	50	1315	25	0	0	0
Conflicting Peds, #/hr	4	0	15	15	0	4	2	0	11	11	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	0	0	6	2	23	0	6	0
Mvmt Flow	11	63	0	0	80	68	57	1494	28	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	907	1649	-	-	1635	776	2	0	0
Stage 1	2	2	-	-	1633	-	-	-	-
Stage 2	905	1647	-	-	2	-	-	-	-
Critical Hdwy	7.5	6.54	-	-	6.5	6.9	4.22	-	-
Critical Hdwy Stg 1	-	-	-	-	5.5	-	-	-	-
Critical Hdwy Stg 2	6.5	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.02	-	-	4	3.3	2.26	-	-
Pot Cap-1 Maneuver	234	98	0	0	102	345	1590	-	-
Stage 1	-	-	0	0	161	-	-	-	-
Stage 2	302	155	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	74	-	-	~ 77	341	1587	-	-
Mov Cap-2 Maneuver	-	74	-	-	~ 77	-	-	-	-
Stage 1	-	-	-	-	121	-	-	-	-
Stage 2	63	117	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		226	1
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1587	-	-	-	120
HCM Lane V/C Ratio	0.036	-	-	-	1.231
HCM Control Delay (s)	7.4	0.8	-	-	226
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	9.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

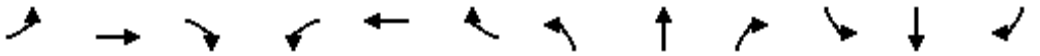
Intersection	
Int Delay, s/veh	27.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	40	0	0	5	190	20	1105	15	0	0	0
Future Vol, veh/h	75	40	0	0	5	190	20	1105	15	0	0	0
Conflicting Peds, #/hr	23	0	27	27	0	23	8	0	34	34	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	3	0	4	0	6	0	7
Mvmt Flow	90	48	0	0	6	229	24	1331	18	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	748	1439	-	-	1430	732	8	0	0
Stage 1	8	8	-	-	1422	-	-	-	-
Stage 2	740	1431	-	-	8	-	-	-	-
Critical Hdwy	7.5	6.5	-	-	6.5	6.96	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	5.5	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	-	4	3.33	2.2	-	-
Pot Cap-1 Maneuver	305	134	0	0	136	361	1625	-	-
Stage 1	-	-	0	0	204	-	-	-	-
Stage 2	379	202	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	96	121	-	-	123	349	1613	-	-
Mov Cap-2 Maneuver	96	121	-	-	123	-	-	-	-
Stage 1	-	-	-	-	186	-	-	-	-
Stage 2	119	184	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	282.5	38	0.3
HCM LOS	F	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1613	-	-	103	333
HCM Lane V/C Ratio	0.015	-	-	1.345	0.706
HCM Control Delay (s)	7.3	0.2	-	282.5	38
HCM Lane LOS	A	A	-	F	E
HCM 95th %tile Q(veh)	0	-	-	9.8	5.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	300	35	295	125	605	70	1000	55	380	855	70
Future Volume (veh/h)	280	300	35	295	125	605	70	1000	55	380	855	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1695	1654	1723	1723	1750	1695	1614	1695	1709	1709
Adj Flow Rate, veh/h	298	319	37	314	133	644	74	1064	0	404	910	74
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	4	7	2	2	0	4	10	4	3	3
Cap, veh/h	276	342	40	357	301	1000	99	966		363	1412	115
Arrive On Green	0.17	0.22	0.22	0.12	0.17	0.17	0.06	0.30	0.00	0.45	0.93	0.91
Sat Flow, veh/h	1654	1522	176	3057	1723	2408	1667	3221	1367	1615	3034	247
Grp Volume(v), veh/h	298	0	356	314	133	644	74	1064	0	404	487	497
Grp Sat Flow(s),veh/h/ln	1654	0	1698	1528	1723	1204	1667	1611	1367	1615	1624	1657
Q Serve(g_s), s	20.0	0.0	24.7	12.1	8.3	21.0	5.2	36.0	0.0	27.0	6.2	6.4
Cycle Q Clear(g_c), s	20.0	0.0	24.7	12.1	8.3	21.0	5.2	36.0	0.0	27.0	6.2	6.4
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	276	0	382	357	301	1000	99	966		363	756	771
V/C Ratio(X)	1.08	0.00	0.93	0.88	0.44	0.64	0.74	1.10		1.11	0.64	0.64
Avail Cap(c_a), veh/h	276	0	382	357	301	1000	153	966		363	756	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.45	0.45	0.45
Uniform Delay (d), s/veh	50.0	0.0	45.6	52.2	44.3	29.5	55.5	42.0	0.0	33.0	2.4	2.5
Incr Delay (d2), s/veh	77.5	0.0	29.2	21.3	0.8	1.3	7.9	60.7	0.0	67.1	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	0.0	13.5	5.7	3.6	7.8	2.4	22.4	0.0	15.3	1.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.5	0.0	74.8	73.5	45.0	30.8	63.5	102.7	0.0	100.1	4.4	4.4
LnGrp LOS	F	A	E	E	D	C	E	F		F	A	A
Approach Vol, veh/h		654			1091			1138	A		1388	
Approach Delay, s/veh		98.8			44.8			100.1			32.2	
Approach LOS		F			D			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	59.8	24.0	25.0	31.0	40.0	18.0	31.0
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	10.5	51.0	19.5	20.5	26.5	35.0	13.5	26.5
Max Q Clear Time (g_c+I1), s	7.2	8.4	22.0	23.0	29.0	38.0	14.1	26.7
Green Ext Time (p_c), s	0.0	17.2	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	63.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.8

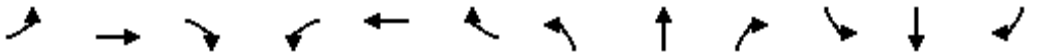
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	110	10	0	35	50	1120	10	10	1130	35
Future Vol, veh/h	25	0	110	10	0	35	50	1120	10	10	1130	35
Conflicting Peds, #/hr	10	0	0	0	0	10	13	0	8	8	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	4	3	0	0	2	0
Mvmt Flow	28	0	122	11	0	39	56	1244	11	11	1256	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2055	2686	661	2020	2700	646	1308	0	0	1263	0	0
Stage 1	1311	1311	-	1370	1370	-	-	-	-	-	-	-
Stage 2	744	1375	-	650	1330	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.18	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.24	-	-	2.2	-	-
Pot Cap-1 Maneuver	33	22	410	35	22	419	514	-	-	557	-	-
Stage 1	171	231	-	157	216	-	-	-	-	-	-	-
Stage 2	377	215	-	429	226	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 25	18	405	21	18	412	508	-	-	553	-	-
Mov Cap-2 Maneuver	~ 25	18	-	21	18	-	-	-	-	-	-	-
Stage 1	150	212	-	139	191	-	-	-	-	-	-	-
Stage 2	301	190	-	278	207	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	96.6	77.7	0.5	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	508	-	-	25	405	21	412	553	-	-
HCM Lane V/C Ratio	0.109	-	-	1.111	0.302	0.529	0.094	0.02	-	-
HCM Control Delay (s)	13	-	-	$ 443.5	17.7	298.6	14.6	11.6	-	-
HCM Lane LOS	B	-	-	F	C	F	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	3.4	1.3	1.5	0.3	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	875	205	75	750	15	180	50	70	155	65	40
Future Volume (veh/h)	60	875	205	75	750	15	180	50	70	155	65	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1723	1723	1709	1709	1654	1723	1723	1695	1736	1750	1750
Adj Flow Rate, veh/h	65	951	223	82	815	16	196	54	76	168	71	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	2	3	3	7	2	2	4	1	0	0
Cap, veh/h	88	1379	323	112	1745	34	340	167	236	323	264	160
Arrive On Green	0.06	0.52	0.51	0.07	0.54	0.54	0.25	0.26	0.26	0.25	0.26	0.25
Sat Flow, veh/h	1537	2632	616	1628	3257	64	1273	645	908	1265	1018	617
Grp Volume(v), veh/h	65	591	583	82	406	425	196	0	130	168	0	114
Grp Sat Flow(s),veh/h/ln	1537	1637	1612	1628	1624	1698	1273	0	1553	1265	0	1635
Q Serve(g_s), s	3.4	21.9	22.1	4.0	12.6	12.6	11.9	0.0	5.5	10.2	0.0	4.5
Cycle Q Clear(g_c), s	3.4	21.9	22.1	4.0	12.6	12.6	16.4	0.0	5.5	15.7	0.0	4.5
Prop In Lane	1.00		0.38	1.00		0.04	1.00		0.58	1.00		0.38
Lane Grp Cap(c), veh/h	88	858	845	112	870	909	340	0	403	323	0	424
V/C Ratio(X)	0.74	0.69	0.69	0.73	0.47	0.47	0.58	0.00	0.32	0.52	0.00	0.27
Avail Cap(c_a), veh/h	189	985	970	220	997	1042	510	0	610	492	0	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.8	14.4	14.6	37.2	11.7	11.7	31.0	0.0	24.4	31.1	0.0	24.1
Incr Delay (d2), s/veh	8.6	3.9	4.0	6.6	1.5	1.4	1.1	0.0	0.3	1.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	8.2	8.2	1.8	4.5	4.7	3.7	0.0	2.0	3.2	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	18.3	18.6	43.8	13.2	13.1	32.1	0.0	24.7	32.4	0.0	24.4
LnGrp LOS	D	B	B	D	B	B	C	A	C	C	A	C
Approach Vol, veh/h		1239			913			326			282	
Approach Delay, s/veh		19.9			15.9			29.2			29.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	46.7		25.1	8.7	47.6		25.1				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	10.5	48.0		31.5	9.5	49.0		31.5				
Max Q Clear Time (g_c+I1), s	6.0	24.1		17.7	5.4	14.6		18.4				
Green Ext Time (p_c), s	0.0	17.6		1.0	0.0	15.5		1.0				

Intersection Summary			
HCM 6th Ctrl Delay		20.6	
HCM 6th LOS		C	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	10.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	55	0	0	70	60	50	1315	25	0	0	0
Future Vol, veh/h	10	55	0	0	70	60	50	1315	25	0	0	0
Conflicting Peds, #/hr	4	0	15	15	0	4	2	0	11	11	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	2	0	0	0	0	6	2	23	0	6	0
Mvmt Flow	11	63	0	0	80	68	57	1494	28	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	907	1649	-	-	1635	776	2	0	0
Stage 1	2	2	-	-	1633	-	-	-	-
Stage 2	905	1647	-	-	2	-	-	-	-
Critical Hdwy	7.5	6.54	-	-	6.5	6.9	4.22	-	-
Critical Hdwy Stg 1	-	-	-	-	5.5	-	-	-	-
Critical Hdwy Stg 2	6.5	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.02	-	-	4	3.3	2.26	-	-
Pot Cap-1 Maneuver	234	98	0	0	102	345	1590	-	-
Stage 1	-	-	0	0	161	-	-	-	-
Stage 2	302	155	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	74	-	-	~ 77	341	1587	-	-
Mov Cap-2 Maneuver	-	74	-	-	~ 77	-	-	-	-
Stage 1	-	-	-	-	121	-	-	-	-
Stage 2	63	117	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		119.8	1
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2
Capacity (veh/h)	1587	-	-	-	74	77	341
HCM Lane V/C Ratio	0.036	-	-	-	0.845	1.033	0.2
HCM Control Delay (s)	7.4	0.8	-	-	159.1	206.8	18.2
HCM Lane LOS	A	A	-	-	F	F	C
HCM 95th %tile Q(veh)	0.1	-	-	-	4.2	5.6	0.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	14.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	40	0	0	5	190	20	1105	15	0	0	0
Future Vol, veh/h	75	40	0	0	5	190	20	1105	15	0	0	0
Conflicting Peds, #/hr	23	0	27	27	0	23	8	0	34	34	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	3	0	4	0	6	0	7
Mvmt Flow	90	48	0	0	6	229	24	1331	18	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	748	1439	-	-	1430	732	8	0	0
Stage 1	8	8	-	-	1422	-	-	-	-
Stage 2	740	1431	-	-	8	-	-	-	-
Critical Hdwy	7.5	6.5	-	-	6.5	6.96	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	5.5	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	-	4	3.33	2.2	-	-
Pot Cap-1 Maneuver	305	134	0	0	136	361	1625	-	-
Stage 1	-	-	0	0	204	-	-	-	-
Stage 2	379	202	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	96	121	-	-	123	349	1613	-	-
Mov Cap-2 Maneuver	96	121	-	-	123	-	-	-	-
Stage 1	-	-	-	-	186	-	-	-	-
Stage 2	119	184	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	120.2	33.1	0.3
HCM LOS	F	D	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2
Capacity (veh/h)	1613	-	-	96	121	123	349
HCM Lane V/C Ratio	0.015	-	-	0.941	0.398	0.049	0.656
HCM Control Delay (s)	7.3	0.2	-	156	53.2	35.8	33
HCM Lane LOS	A	A	-	F	F	E	D
HCM 95th %tile Q(veh)	0	-	-	5.5	1.7	0.2	4.4

SECTION 3: OPERATIONS RESULTS

2040 HARNEY STREET EXTENSION RESULTS

Intersection	
Int Delay, s/veh	3.8

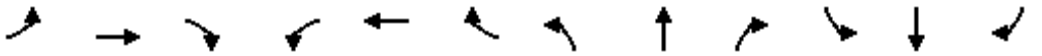
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	50	1100	40	10	975
Future Vol, veh/h	75	50	1100	40	10	975
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	275	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	31	4	0	0	3
Mvmt Flow	80	53	1170	43	11	1037

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2229	1170	0	0	1213	0
Stage 1	1170	-	-	-	-	-
Stage 2	1059	-	-	-	-	-
Critical Hdwy	6.4	6.51	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.579	-	-	2.2	-
Pot Cap-1 Maneuver	~ 48	205	-	-	582	-
Stage 1	298	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 47	205	-	-	582	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	330	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	68.5	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	178	582	-
HCM Lane V/C Ratio	-	-	0.747	0.018	-
HCM Control Delay (s)	-	-	68.5	11.3	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	4.8	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	760	145	65	495	290	130	75	70	300	100	40
Future Volume (veh/h)	60	760	145	65	495	290	130	75	70	300	100	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1723	1723	1709	1709	1654	1723	1723	1695	1736	1750	1750
Adj Flow Rate, veh/h	65	826	158	71	538	315	141	82	76	326	109	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	2	3	3	7	2	2	4	1	0	0
Cap, veh/h	87	960	184	95	602	494	447	247	679	401	114	45
Arrive On Green	0.06	0.35	0.34	0.06	0.35	0.35	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1537	2741	524	1628	1709	1402	822	520	1432	721	241	95
Grp Volume(v), veh/h	65	493	491	71	538	315	223	0	76	478	0	0
Grp Sat Flow(s),veh/h/ln	1537	1637	1628	1628	1709	1402	1342	0	1432	1058	0	0
Q Serve(g_s), s	4.3	28.8	28.8	4.4	30.5	19.3	0.0	0.0	3.0	35.5	0.0	0.0
Cycle Q Clear(g_c), s	4.3	28.8	28.8	4.4	30.5	19.3	10.5	0.0	3.0	46.0	0.0	0.0
Prop In Lane	1.00		0.32	1.00		1.00	0.63		1.00	0.68		0.09
Lane Grp Cap(c), veh/h	87	573	570	95	602	494	687	0	679	556	0	0
V/C Ratio(X)	0.75	0.86	0.86	0.75	0.89	0.64	0.32	0.00	0.11	0.86	0.00	0.00
Avail Cap(c_a), veh/h	90	590	587	95	616	505	692	0	684	560	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	47.7	31.0	31.2	47.6	31.4	27.8	17.0	0.0	15.0	31.6	0.0	0.0
Incr Delay (d2), s/veh	26.9	14.8	14.8	26.0	17.6	5.4	0.2	0.0	0.1	12.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	13.4	13.4	2.5	15.2	7.1	3.4	0.0	1.0	13.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	45.8	46.0	73.6	49.0	33.2	17.2	0.0	15.0	44.4	0.0	0.0
LnGrp LOS	E	D	D	E	D	C	B	A	B	D	A	A
Approach Vol, veh/h		1049			924			299			478	
Approach Delay, s/veh		47.7			45.5			16.6			44.4	
Approach LOS		D			D			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	40.0		52.7	9.8	40.2		52.7				
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	5.5	36.0		48.5	5.5	36.0		48.5				
Max Q Clear Time (g_c+I1), s	6.4	30.8		48.0	6.3	32.5		12.5				
Green Ext Time (p_c), s	0.0	4.2		0.2	0.0	2.5		1.5				

Intersection Summary			
HCM 6th Ctrl Delay		43.0	
HCM 6th LOS		D	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	25.9
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	40	265	30	30	5	310	155	35	5	15	5
Future Vol, veh/h	5	40	265	30	30	5	310	155	35	5	15	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	1	0	0	0	0	0
Mvmt Flow	6	45	298	34	34	6	348	174	39	6	17	6
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	13.8	10.3	36.3	9.5
HCM LOS	B	B	E	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	0%	2%	46%	20%
Vol Thru, %	33%	0%	13%	46%	60%
Vol Right, %	0%	100%	85%	8%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	465	35	310	65	25
LT Vol	310	0	5	30	5
Through Vol	155	0	40	30	15
RT Vol	0	35	265	5	5
Lane Flow Rate	522	39	348	73	28
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.883	0.055	0.511	0.128	0.048
Departure Headway (Hd)	6.087	5.025	5.281	6.329	6.113
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	596	713	679	564	583
Service Time	3.817	2.754	3.336	4.399	4.177
HCM Lane V/C Ratio	0.876	0.055	0.513	0.129	0.048
HCM Control Delay	38.4	8	13.8	10.3	9.5
HCM Lane LOS	E	A	B	B	A
HCM 95th-tile Q	10.3	0.2	2.9	0.4	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	75	50	1100	40	10	975
Future Volume (veh/h)	75	50	1100	40	10	975
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1750	1327	1695	1750	1750	1709
Adj Flow Rate, veh/h	80	53	1170	43	11	1037
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	31	4	0	0	3
Cap, veh/h	98	65	1257	1099	191	1383
Arrive On Green	0.10	0.10	0.74	0.74	0.02	0.81
Sat Flow, veh/h	949	629	1695	1483	1667	1709
Grp Volume(v), veh/h	134	0	1170	43	11	1037
Grp Sat Flow(s),veh/h/ln	1589	0	1695	1483	1667	1709
Q Serve(g_s), s	7.6	0.0	52.8	0.7	0.1	27.0
Cycle Q Clear(g_c), s	7.6	0.0	52.8	0.7	0.1	27.0
Prop In Lane	0.60	0.40		1.00	1.00	
Lane Grp Cap(c), veh/h	164	0	1257	1099	191	1383
V/C Ratio(X)	0.82	0.00	0.93	0.04	0.06	0.75
Avail Cap(c_a), veh/h	347	0	1518	1327	260	1716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	0.0	9.9	3.2	19.1	4.2
Incr Delay (d2), s/veh	9.4	0.0	9.5	0.0	0.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	14.7	0.1	0.1	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.6	0.0	19.4	3.2	19.2	5.7
LnGrp LOS	D	A	B	A	B	A
Approach Vol, veh/h	134		1213			1048
Approach Delay, s/veh	49.6		18.8			5.8
Approach LOS	D		B			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.2	71.9			78.1	13.5
Change Period (Y+Rc), s	5.0	6.0			6.0	4.0
Max Green Setting (Gmax), s	5.0	80.0			90.0	20.0
Max Q Clear Time (g_c+I1), s	2.1	54.8			29.0	9.6
Green Ext Time (p_c), s	0.0	11.2			10.6	0.2

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	760	145	65	495	290	130	75	70	300	100	40
Future Volume (veh/h)	60	760	145	65	495	290	130	75	70	300	100	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1723	1723	1709	1709	1654	1723	1723	1695	1736	1750	1750
Adj Flow Rate, veh/h	65	826	158	71	538	315	141	82	76	326	109	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	2	3	3	7	2	2	4	1	0	0
Cap, veh/h	88	1175	225	97	738	605	456	305	283	449	443	175
Arrive On Green	0.06	0.43	0.42	0.06	0.43	0.43	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1537	2741	524	1628	1709	1402	1229	821	761	1235	1192	470
Grp Volume(v), veh/h	65	493	491	71	538	315	141	0	158	326	0	152
Grp Sat Flow(s),veh/h/ln	1537	1637	1628	1628	1709	1402	1229	0	1582	1235	0	1662
Q Serve(g_s), s	3.6	21.2	21.2	3.7	22.4	14.1	7.8	0.0	6.0	21.7	0.0	5.4
Cycle Q Clear(g_c), s	3.6	21.2	21.2	3.7	22.4	14.1	13.2	0.0	6.0	27.7	0.0	5.4
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.48	1.00		0.28
Lane Grp Cap(c), veh/h	88	702	698	97	738	605	456	0	588	449	0	617
V/C Ratio(X)	0.74	0.70	0.70	0.73	0.73	0.52	0.31	0.00	0.27	0.73	0.00	0.25
Avail Cap(c_a), veh/h	125	820	815	133	856	702	600	0	774	594	0	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	20.1	20.2	39.7	20.2	17.9	23.6	0.0	18.8	28.9	0.0	18.7
Incr Delay (d2), s/veh	10.4	5.1	5.1	10.0	5.5	2.7	0.3	0.0	0.2	3.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.6	8.6	1.7	9.5	4.8	2.3	0.0	2.2	6.6	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	25.1	25.3	49.7	25.8	20.5	23.9	0.0	19.0	31.9	0.0	18.9
LnGrp LOS	D	C	C	D	C	C	C	A	B	C	A	B
Approach Vol, veh/h		1049			924			299			478	
Approach Delay, s/veh		26.8			25.8			21.3			27.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	40.8		35.9	8.9	41.1		35.9
Change Period (Y+Rc), s	4.5	5.0		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	6.5	42.0		41.5	6.5	42.0		41.5
Max Q Clear Time (g_c+I1), s	5.7	23.2		29.7	5.6	24.4		15.2
Green Ext Time (p_c), s	0.0	12.6		1.7	0.0	10.0		1.2

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

City of Newport

Community Development Department

Memorandum

To: Planning Commission/Commission Advisory Committee

From: Derrick I. Tokos, AICP, Community Development Director

Date: August 5, 2021

Re: Submitted TGM Grant Application for the City Center Revitalization Project

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Enclosed is a copy of the Transportation Growth Management (TGM) Grant and its supporting materials that we submitted by the July 30, 2021 deadline. Also enclosed is a brief summary of the 25 applications the TGM program received broken out by ODOT region. Grant awards will be made in September. These materials are included in the meeting packet for informational purposes.

Attachments
Newport's 2021 Transportation Growth Management Grant Application
List of 2021 TGM Grant Applications

2021 Transportation Growth Management Grant Application

Instructions

Be sure to download and review the 2021 Application Packet and 2021 Application Instructions before filling out this grant application.

You can save your progress and revisit this form at any time by clicking the "Save" button at the bottom of the page.

Applications must be received by July 30, 2021 at 11:59 p.m. (PDT)

Applicant information

Instructions: *Complete this information for the applicant. Provide both a designated contact and an authorized representative (if different than the designated contact) for your entity.*

Primary applicant jurisdiction
City of Newport

Mailing address
169 SW Coast Hwy, Newport, Oregon 97365

Website
https://www.newportoregon.gov/

Contact person name
Derrick Tokos

Contact person title
Community Development Director

Contact phone
(541) 574-0626

Contact email
d.tokos@newportoregon.gov

Would you like to receive TGM news and updates?
I am already subscribed

Authorized representative name, if different from the applicant contact

Authorized representative title

Phone **Email**

List other participating local jurisdictions (if any)

Participating local jurisdiction **Providing match?**

Project name and location

Project title
Newport City Center Revitalization Project

Project area: *Using either of the two fields below, attach a map of the project area or describe the area your project is located in.*

Option 1: Project area map

City_Center_Project_Boundary.pdf
1.69 MB

Option 2: Project area description

ODOT region (1-5)
Region 2

ODOT Region Map

Type of grant
Category 2: Integrated Land Use & Transportation Planning

Summary description of project
Newport's City Center is concentrated along the US 20/101 commercial corridors between the east entrance to the City and the Yaquina Bay Bridge. It is an area where many of the properties are underutilized or in economic distress with vacant storefronts and aging, poorly maintained buildings. The City established an urban renewal district in 2015 to generate funding to revitalize the area, and has partnered with ODOT on a TSP update to identify how the transportation system can be redefined to catalyze economic development and provide infrastructure needed to support additional density. This project will develop a set of land use policies and regulations, with financial incentives, to support reinvestment in the area in a manner that compliments identified transportation solutions, and promotes mixed use development to create a live-work environment where residents have convenient access to employment and essential services.

Project cost table

TGM funds requested **Consultant** **Local reimbursement** **Total TGM funds requested**

$140,000.00	$0.00	$140,000.00

Local match

Minimum Match (Calculated)
$19,090.91

Match to be provided

Labor, supplies and services during project
$0.00

Payment when Intergovernmental Agreement is signed
$35,000.00

Certifications

Certifications
This application was prepared by staff of the primary applicant or staff of one of the involved jurisdictions

Certifications checkbox
By checking this box, I certify that my organization listed above supports the proposed project, has the legal authority to pledge matching funds, and has the legal authority to apply for Transportation and Growth Management funds. I further certify that matching funds are available or will be available for the proposed project.

Eligibility requirements

Applications are reviewed on a pass/fail basis on each of the following three requirements.

Applications found to not meet each of these requirements will not be scored against the award criteria and will not be awarded a grant.

1. Clear transportation relationship

A proposed project must have a clear transportation relationship and produce transportation benefits. A project must entail analysis, evaluation and selection of alternatives, development of implementation actions, and public involvement that results in a long range transportation plan, land use plan, or other product that addresses a transportation problem, need, opportunity, or issue of local or regional importance.

Certification: Clear transportation relationship
By checking this box, I certify that the project meets this eligibility criterion.

2. Adoption of products to meet project objectives

A proposed project must include preparation of an adoption-ready product or products that lead to a local policy decision and that directly address the project objectives, such as a transportation system plan, comprehensive plan amendment, land use plan, code amendment, implementation program, or intergovernmental agreement. Projects are expected to include adoption hearings (or equivalent) by the governing body or to prepare products which will be adopted as part of a larger project.

Certification: Adoption of products to meet project objectives
By checking this box, I certify that the project meets this eligibility criterion.

3. Support of local officials

A proposed project must clearly demonstrate that local officials, both the primary applicant and any co-applicants, understand the purpose of the grant application and support the project objectives. A resolution of support, meeting minutes, or authorized letter from the governing body of all applicants (e.g. City Council, Board of Commissioners, or Transit Board) must be submitted with the application to meet this requirement.

Upload your resolution, minutes or authorized letter from governing body of applying jurisdiction(s) here:

Resolution No. 3927.pdf
57.99 KB

Award criteria

Criterion 1: Proposed project addresses a need and supports TGM objectives (up to 40 points)

The project clearly and effectively addresses a local or regional transportation or transportation-related land use issue, problem, need, or opportunity and will achieve one or more of the TGM objectives.

Response instructions are on page 8 of the 2021 Application Instructions.

Explain how your proposed project addresses a need and supports TGM objectives

The purpose of this project is to develop a set of land use policies and regulations, with financial incentives, to support redevelopment of property in Newport's commercial core areas (i.e. City Center) in a manner that compliments transportation solutions identified in the City's TSP update, and promotes mixed use development to create a live-work environment where residents have convenient access to employment and essential services. The financial incentives component is to include a memo outlining parameters the City can use to launch a building façade improvement grant program to accelerate redevelopment in line with the new policies and regulations.

Newport's commercial core areas extend a couple of blocks to either side of US 101 and US 20, from the bridge north to where the highways intersect, and from that point east to the city limits. While these highways are effective at moving traffic, they have not served the adjoining businesses well. The travel lanes are congested, sidewalks are narrow or non-existent, and there are no dedicated bicycle facilities. People do not feel safe parking, walking or cycling. Further, there is no overarching sense of the type or form of development that is desired. Land ownership is fragmented with many of the buildings being vacant and in a state of disrepair.

The City established an urban renewal district in 2015 to plan for, and fund, improvements to facilitate the revitalization of these commercial corridors. It has also partnered with ODOT to update its TSP to identify how the streetscape can be redefined to catalyze economic development and provide infrastructure needed to support additional density, and mixed use live-work environments. To that end, a couplet is proposed along US 101, with the existing highway handling south bound traffic, and SW 9th Street taking on northbound traffic. Splitting vehicle traffic between the two streets will allow the number of travel lanes to be reduced, so sidewalks can be widened and parking and bike lanes installed. A pedestrian plaza is also proposed within a right-of-way that intersects the two streets. This will create a more desirable environment for cyclists and walkers, and the additional traffic on SW 9th will improve exposure of the abutting properties, which should make them more attractive for redevelopment.

Along US 20, the emphasis will be on improving the parallel streets to create a local bicycling network, improve pedestrian connections, and supplement on-street parking to support mixed use and multi-family development. These lands are in close proximity to Newport's schools, employment, and essential services.

Considering the above, this project will further TGM program objectives as follows:

1. Provides transportation choices by creating conditions for housing to be introduced into the City's core commercial areas where funding exists to improve the transportation network such that it will offer a variety of mobility options, be it walking, biking, driving, or transit.

2. Creates communities by establishing a set of land use policies, regulations, and financial incentives that will reshape Newport's commercial core areas into a compact, mixed-use live work environment close to areas of employment and services that are accessible to pedestrians, cyclists, and transit users. Lincoln County Transit's principal hub is in this part of the city.

3. Supports economic vitality and growth by facilitating reinvestment in Newport's underdeveloped commercial core areas, creating additional opportunities for employment and synergy between businesses, and introducing housing in close proximity to jobs.

4. Saves public and private costs by encouraging compact development in a portion of the City where services are in place to support it. Newport's commercial core is a well-connected street grid with looped water and wastewater systems that possess ample capacity and redundancy.

5. Promotes environmental stewardship by creating conditions that will encourage reinvestment in existing underperforming urbanized areas, as opposed to greenfields on the City's periphery, reducing greenhouse gas emissions by shortening vehicle trips and establishing an environment where cycling, walking or transit are viable alternatives. Incentivizing housing will create options for workers that commute, reducing emissions.

Newport's commercial core areas do not possess ocean or bay views that demand premium real estate prices. With support infrastructure in place, property tax incentives on the books, and partners like the Housing Authority of Lincoln County in a position to make new investments, there is a real possibility that a meaningful number of new housing units will be available to low income households. This includes persons employed in tourist-oriented jobs, where the underserved latinx segment of our community is overrepresented, and seniors on fixed incomes with mobility issues.

Criterion 2: Proposed project is timely and urgent (up to 25 points)

The application demonstrates timeliness and urgency. The project is needed now to:

- address pressing local transportation and land use issues
- make amendments to local plans or regulations necessitated by changes in federal regulations, state requirements or regional plans
- make amendments to local plans or regulations necessitated by changes that were not anticipated in previous plans, including growth or lack of growth, changes in land-use patterns or changes in available funding
- build on, complement or take a necessary step toward completing or implementing other high priority community initiatives, including Governor's Regional Solutions Team priority
- resolve transportation or land use-related issues affecting the project readiness of local, regional or state transportation projects for which funding is expected to be obligated within the near future

Response instructions are on page 10 of the 2021 Application Instructions.

Explain how your proposed project is timely and urgent

Newport's commercial core area is economically distressed, a condition caused in part by a poorly functioning transportation system that does not meet the needs of area businesses and land use plans that provide no clear direction for how the area should develop. It is experiencing active disinvestment, and as businesses depart landlords, no longer receiving an income stream, have no incentive to maintain their properties. The result is an ever-increasing inventory of vacant storefronts and buildings in a state of disrepair. It is both urgent and timely for the City to collaborate with its state agency partners and local stakeholders to take affirmative steps to halt this trend.

These conditions did not happen overnight, nor can they be addressed quickly and easily. The City began formulating a plan in 2012 by completing an Economic Opportunity Analysis that, among other things, recommended an urban renewal district be formed to generate funding to make strategic investments in area properties and the transportation system. An urban renewal feasibility study was performed and the district was ultimately established in 2015. A portion of the initial infusion of urban renewal dollars was used to help fund a TSP update, in partnership with ODOT, with particular emphasis on identifying transportation solutions that will revitalize the commercial core of the City. Those solutions have been identified and vetted, and work will soon start on implementing them. Through all of this, agency and community stakeholders have been engaged and their feedback used to inform key recommendations.

This TGM project will build upon this body of work by (a) developing a set of land use policies, regulations and design guidelines to complement recommended transportation improvements and (b) creating a framework for a City administered building façade improvement program to help land owners accelerate redevelopment of their properties in line with the new rules. It is essential that the project be funded this grant cycle to maintain momentum, and provide land owners a clear sense of possibilities and resources to make change a reality. Transportation solutions, such as the US 101/9th Street couplet, will support a compact built form conducive to creating a vibrant mixed-use live work environment, and this TGM project will produce a road map for how that can be accomplished.

Once the TSP update is complete, with plan adoption slated for the fall, the City will begin to work with ODOT on implementation. It will be several years, possibly even a decade, before a major transportation improvement like the US 101/9th Street couplet will be constructed. The ground work for that though, such as preliminary design and right-of-way acquisition, will start much sooner and recommendations from this TGM project are needed to inform that work so that what is ultimately built complements desired land use outcomes.

The City has progressed as far as it has because of the efforts of policymakers and community stakeholders that have become project champions. Providing funding in the current grant cycle will allow these individuals to stay engaged so that they can apply the knowledge and expertise they have gained through the TSP update, and prior work, to this project. The same is true for City and agency staff. Maintaining this type of continuity is invaluable and increases the chances that project recommendations will be accepted by the community and implemented.

Criterion 3: Proposed project approach supports policy decision (up to 20 points)

The application demonstrates a clear approach to achieving the expected outcome and includes consideration for adoption. Where substantial coordination with other local, regional, and state planning efforts will need to occur, the mechanisms and responsibilities for the coordination are clear.

Response instructions are on page 11 of the 2021 Application Instructions.

Explain how your proposed project approach supports policy decision

Our desired outcome is a well vetted set of land use policies and regulations, with financial incentives, to promote mixed use development in the City Center, complementing transportation solutions identified in the TSP update and creating opportunities for housing in close proximity to employment and essential services. To that end, City intends to utilize TGM funds to hire a consultant(s) to prepare a refinement plan that will serve as the basis to update its Comprehensive Plan and land use regulations. This plan will be developed through an iterative process, with the consultant working with a Technical Advisory Committee (TAC) consisting of City, DLCD, and ODOT staff, and a Project Advisory Committee (PAC) of community stakeholders and policymakers.

Consultant's initial task will be to conduct a site visit to familiarize themselves with local conditions and meet with a roundtable of key stakeholders to learn about the community's needs and aspirations for the area. This is also an opportunity for the consultant to meet with staff to confirm the project objectives and schedule. Relevant background documents and data

will be provided to consultant in advance. Deliverables will include meeting notes summarizing results from the roundtable discussion, and photographs for reference and use in future work product.

Information from the site visit and review of background materials will be used by consultant to map existing and anticipated future conditions and to identify opportunities/constraints that will inform preparation of the policy and code updates. This should include a graphic component to help stakeholders visualize how the commercial areas can be transformed through investments in the streetscape and complimentary redevelopment of adjoining property. The work product will be presented and refined with input from the PAC. Broader public outreach will include workshops, held over a couple of days, where consultant will meet with stakeholder groups and the public at-large to introduce the project, share their observations, and obtain feedback on key assumptions, opportunities/constraints. This will be paired with a virtual open house and online survey in English and Spanish that will run for several weeks. A focus group session will be held with the latinx segment of the community. The City will partner with Centro de Ayuda to coordinate that event, and conduct outreach to this historically underrepresented group. A representative of the latinx community will also be on the PAC. Consultant deliverables will include preparation of meeting notices, agendas, handouts; online survey, and virtual open house content. City will appoint the PAC members; inform stakeholders of public engagement opportunities; host the virtual open houses; advertise events (email, social media, press releases, mailings, etc.); and prepare meeting summaries.

Consultant will take the feedback and develop a draft policy and regulatory framework to achieve desired outcomes. This will be paired with graphics and a preference survey where there are policy or design options. A conceptual framework for the building façade improvement grant program will be presented at this time as well. Work product will be vetted with the PAC, and outreach and deliverables will be in line with the initial round of community engagement.

Following this second round of outreach, consultant will refine the policy and code concepts into a draft refinement plan for review by the PAC, Planning Commission, and City Council. This will include a final set of recommendations for how the City can structure the building façade improvement grant program. Consultant deliverables will include a handout summarizing key changes in English and Spanish. Materials will be posted on the project website, and a notice and opportunity to comment will be provided to stakeholders. The notice will include a time and date for a walk-in open house for Q&A with the consultant and staff. Feedback and staff/consultant responses will be presented to the PAC along with a final draft of the report. Reduction of greenhouse gas emissions will be addressed as policies in support of the recommended code changes. Once the report is finalized, the Council will initiate the legislative amendment process. City staff will prepare the necessary ordinance with consultant playing a support role, and attending hearings as needed.

Criterion 4: Proposed project has community support (up to 5 points)

The application demonstrates that there is local support for project objectives, a commitment to participate, and a desire to implement the expected outcome.

Response instructions are on page 13 of the 2021 Application Instructions.

Upload letters of support from stakeholders here

Chamber of Commerce.pdf
50.17 KB

Housing Authority.pdf
59.16 KB

Centro de Ayuda.pdf
27.28 KB

Lincoln County School District.pdf

111.10 KB

JC Market.pdf
949.98 KB

Bier One Support Letter.pdf
36.00 KB

Bike_Pedestrian Support Letter.pdf
227.69 KB

Criterion 5: Proposed project sponsor is ready and capable (up to 10 points)

The application demonstrates that the local government is ready and able to begin the project within the TGM timetable and that there is local commitment and capability to manage and complete the project. The application demonstrates, if applicable, successful performance on previous TGM projects.

Response instructions are on page 14 of the 2021 Application Instructions.

Explain how proposed project sponsor is ready and capable

This TGM project will be managed by Derrick Tokos, AICP, the City's Community Development Director. Mr. Tokos has over 25 years of planning experience, with the last 11 being in his current position. He has managed and successfully completed many projects with a similar scope of work and palette of deliverables, including a 2011 Housing Needs Assessment (DLCD TA Grant), 2012 Economic Opportunity Analysis (DLCD TA Grant), 2012 South Beach TSP Update, 2014 Student Housing Study (DLCD TA), 2014 LID Implementation Plan (TGM Grant), 2015 Nye Beach Design Guideline Update, 2015 Northside Urban Renewal Plan, 2016 Newport Vision 2040, 2017 SDC Methodology Update, 2017 Park System Master Plan, and 2018 Parking Management Plan. Mr. Tokos possesses unique insights and institutional knowledge that will assist consultants in efficiently and effectively carrying out tasks, and he has developed strong working relationships with stakeholders that will need to be engaged as part of the project.

City staff evaluates its capacity to support projects of this nature each budget cycle, and coordinates with the City Manager and Council to ensure there are adequate resources to support policymaker priorities. Securing this grant and initiating the project in FY 21/22 is a Council priority. The current TSP update is winding down, with plan adoption slated for the fall. This will free up Mr. Tokos and other staff to support the TGM project as it ramps up in early 2022. Additional city staff with capacity to assist include an administrative assistant to support outreach, arrange meeting logistics, and prepare minutes; an associate planner who serves as the City's bike/ped coordinator to support outreach and assist with technical reviews; and the City Engineer and City Manager, both of whom will serve on the TAC to provide technical and policy guidance. A vacant permit tech position will be filled by the end of 2021, and a portion of that individuals time will be available as well.

If applicable, list local jurisdiction's TGM projects within last 10 years and their status

If applicable, list local jurisdiction's TGM projects within last 10 years and their status

TGM File Code	Project Title	Status
2C-14	Local Improvement District Implementation Plan	Complete

Required forms

Title VI: Racial & Ethnic Impact Statement form

Download the Racial & Ethnic Impact Statement form here

Racial-Ethnic-Impact-Statement.pdf
97.17 KB

Today's date
7/30/2021

If you encounter any issues with the submittal process, please contact:

Rachael Levasseur
Planning Section Web Coordinator
Rachael.LEVASSEUR@odot.state.or.us

City of Newport
Community Development Department
169 SW Coast Highway
Newport, OR 97365
Phone:1.541.574.0629
Fax:1.541.574.0644

Newport City Center Revitalization Project
(Boundary in White)

Image Taken July 2018
4-inch, 4-band Digital Orthophotos
Quantum Spatial, Inc. Corvallis, OR

0 400 800 1,600 Feet

N

CITY OF NEWPORT

RESOLUTION NO. 3927

A RESOLUTION IN SUPPORT OF A TRANSPORTATION AND GROWTH MANAGEMENT GRANT APPLICATION TO FURTHER THE CITY'S EFFORTS TO REVITALIZE NEWPORT'S CITY CENTER AREA

WHEREAS, Newport's commercial areas along US 101 and US 20, particularly between the Yaquina Bay Bridge and US 101/US 20 intersection, are underutilized with vacant storefronts and aging, poorly maintained buildings; and

WHEREAS, the City established an urban renewal district over the affected areas in 2015 to plan for, and fund, improvements to attract new investments and facilitate the revitalization of these commercial corridors; and

WHEREAS, as an initial investment the City, through its Urban Renewal Agency, partnered with the Oregon Department of Transportation to update its Transportation System Plan (TSP) to identify how the streetscape can be redefined to catalyze economic development and provide infrastructure needed to support additional density, and mixed use live-work environments; and

WHEREAS, the TSP update is winding down with key transportation improvements for these commercial areas being tentatively identified and prioritized; and

WHEREAS, it is now timely for the City to turn its attention to (a) developing a set of land use regulations and design standards for private property to guide development in a manner that complements recommended transportation improvements, and (b) creating a building façade improvement program to help property owners accelerate redevelopment in line with the new rules; and

WHEREAS, to successfully revitalize these commercial corridors the City needs to reserve most of its limited urban renewal funds for implementation and; therefore, desires to partner with the Oregon Department of Transportation and the Department of Land Conservation and Development, by and through a jointly administered Transportation and Growth Management (TGM) Program, to secure a grant to hire a consultant(s) with the requisite expertise to assist with developing the land use regulations, design standards, and framework for a building façade improvement program; and

WHEREAS, The City of Newport has budgeted sufficient funds and is prepared to dedicate staff resources, as needed, to fulfill its obligations related to this grant request should the TGM Program award the grant.

Based upon these findings:

GREATER NEWPORT CHAMBER OF COMMERCE

555 SW Coast Highway • Newport, Oregon 97365
(541) 265-8801 • Fax: (541) 265-5589 • 1-800-262-7844
www.newportchamber.org

Oregon Department of Transportation
Transportation and Growth Management Program
555 13th St., NE
Salem, OR 97301

To Whom it May Concern,

Please accept this letter as confirmation of the Greater Newport Chamber of Commerce's support of the City of Newport's effort to secure funding to develop a plan to help revitalize commercial areas in the central part of the city. The Chamber supports more than 500 local businesses, organizations, and individuals, several of which are located in and around this commercial core area. This is where our offices are located as well.

For many years now, businesses along US 101 and US 20 in this portion of the city have struggled, and many of the storefronts are now vacant with aging buildings that are in a state of disrepair. It is an area that is ripe for redevelopment, and the City can be a key player in making that happen.

The Chamber and City of Newport have had a long and collaborative working relationship. I am a member of the City's Transportation System Plan Project Advisory Committee, and am hopeful that the planned improvements coming out of that process, such as a US 101/9th Street couplet, can help kick start reinvestment.

We understand that the City intends to use the grant funds to (a) develop a set of land use regulations and design standards for private property to guide development in a manner that complements recommended transportation improvements, and (b) create a building façade improvement program to help land owners accelerate redevelopment of their property in line with the new rules. This is a logical next step, that will give those invested in the area a clear idea of what the long-term plans are so that they can make sound decisions on how best to grow and develop their businesses.

Lack of affordable housing is a challenge in Newport, making it difficult for businesses to recruit talent. There is capacity in this commercial core area of the city for mixed use development, to create a live-work environment where residents would have convenient access to employment and essential services. It is our understanding that this planning effort will identify steps the City can take to incentivize this type of development. If this is done thoughtfully, it could really reinvigorate the area while also providing much needed housing that would benefit the community as a whole.

Thank you for your careful consideration of the City of Newport's grant application, and the Chamber looks forward to continuing its work with the City to identify and implement solutions that will benefit area businesses.

Sincerely,

Judy Kuhl, Executive Director
Greater Newport Chamber of Commerce

HOUSING AUTHORITY OF LINCOLN COUNTY
P.O. BOX 1470
1039 N. W. NYE STREET
NEWPORT, OR 97365
541/265-5326

July 26, 2021

Oregon Department of Transportation
Transportation and Growth Management Program
555 13th St., NE
Salem, OR 97301

To Whom it May Concern,

On behalf of the Housing Authority of Lincoln County, I would like to convey our support for the City's effort to secure grant funds to develop a plan to facilitate revitalization of Newport's commercial core areas. Businesses in the area are struggling, and many of the storefronts are vacant with buildings that are in a state of disrepair.

We understand that the City intends to use the grant funds to (a) develop a set of land use regulations and design standards for private property to guide development in a manner that complements recommended transportation improvements, and (b) create a building façade improvement program to help land owners accelerate redevelopment of their property in line with the new rules.

The Housing Authority is actively exploring opportunities for how and where it can invest our resources to grow our portfolio of affordable rental housing units. There is an overwhelming demand for such units in the community and the city center area is an untapped resource that could meet that need. This could come in the form of additional allowances for multi-family housing projects or mixed-use development, where residents would have convenient access to employment, essential services and transit. A building façade improvement program and other strategic investments that an Urban renewal Agency can undertake can be the difference maker on whether or not an entity such as our own can move forward with a project. We appreciate the City's initiative in pursuing this grant and welcome the opportunity to work with them to identify how this part of our community can be reinvigorated.

Thank you for your time and consideration.

Sincerely,

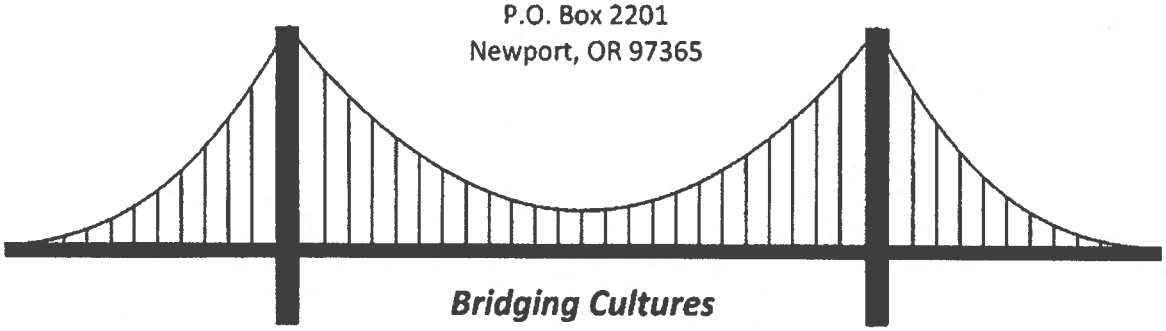
HOUSING AUTHORITY OF LINCOLN COUNTY

Kathy Kowtko

Kathy Kowtko
Executive Director

CENTRO DE AYUDA

410 SW 9th Street
P.O. Box 2201
Newport, OR 97365



Bridging Cultures

Oregon Department of Transportation
Transportation and Growth Management Program
555 13th St., NE
Salem, OR 97301

To Whom it May Concern,

On behalf of Centro de Ayuda, I would like to express our support for the City's effort to secure grant funds to develop a plan to facilitate revitalization of Newport's city center. This is where our office is located, and we see firsthand how businesses in the area are struggling, and many of the storefronts are vacant with buildings that are in a state of disrepair.

As a not-profit educational organization, whose primary purpose is to serve as a center for cultural awareness and to facilitate community interaction, we have been happy to help the City engage with, and solicit input from, our Latinx members on the types of transportation improvements they would like to see implemented. We understand that the City is pursuing this grant to build upon that effort by (a) developing a set of land use regulations and design standards for private property to guide development in a manner that complement recommended transportation improvements, and (b) creating a building façade improvement program to help land owners and their tenants redevelop in line with the new rules. This is a logical next step, that will give those invested in the area, including constituents we serve, a clear idea of what the long-term plans are so that they can make sound decisions.

Lack of affordable housing is a challenge in Newport, and many that we serve struggle to find accommodations that meet their needs. There is capacity in this commercial core area of the city for mixed use development, to create a live-work environment where residents would have convenient access to employment and essential services. It is our understanding that this planning effort will identify steps the City can take to incentivize this type of development. If this is done thoughtfully, it could really reinvigorate the area while also providing much needed housing that would benefit the community as a whole.

Thank you for your time and consideration.

Sincerely,

Debra Jones, President
Centro de Ayuda

LINCOLN COUNTY
SCHOOL DISTRICT

Dr. Karen Gray
Superintendent

District Office
PO Box 1110, Newport, OR 97365
T 541-265-9211 | F 541-574-0511

Teaching & Learning Center
1212 NE Fogarty Street, Newport, OR 97365
T 541-265-9211 | F 541-265-3059

www.lincoln.k12.or.us

Oregon Department of Transportation
Transportation and Growth Management Program
555 13th St., NE
Salem, OR 97301

To Whom It May Concern,

Please accept this letter as confirmation of the Lincoln County School District's enthusiastic endorsement of the City's effort to secure funding to develop a plan to facilitate the revitalization of Newport's commercial core areas. The District owns property along US 101 in what is commonly referred to as the "city center," and our staff observes firsthand how businesses are struggling, with many of the storefronts being vacant and buildings in a state of disrepair.

As an affected taxing entity, the Lincoln County School District actively consulted with the City when it developed the urban renewal plan for the area in 2015 to generate funding to identify and implement a package of transportation improvements to improve traffic flow and safety, and redefine the streetscape to catalyze redevelopment. District staff has participated in the City's Transportation System Plan update and is optimistic that the planned improvements coming out of that process, such as a US 101/9th Street couplet, can help kick start reinvestment in the area.

We understand that the City intends to use the grant funds to (a) develop a set of land use regulations and design standards for private property to guide development in a manner that complements recommended transportation improvements, and (b) create a building façade improvement program to help land owners accelerate redevelopment of their property in line with the new rules. This is a logical and reasonable next step that will provide property owners a clear sense of possibilities and resources to make change a reality.

Lack of affordable housing is a significant challenge for staff and students within the District. There is capacity in city center for mixed use development, to create a live-work environment where residents would have convenient access to essential services and transit. It is our understanding that this planning effort will identify steps the City can take to incentivize this type of development, and we wholeheartedly support efforts like that, which could lead to an increased supply of housing in the Newport.

Thank you for your time and consideration.

Sincerely,

Karen F. Gray

Dr. Karen Gray
Superintendent
Lincoln County School District

Oregon Department of Transportation
Transportation and Growth Management Program
555 13th St., NE
Salem, OR 97301

To Whom it May Concern,

As the owners of JC Market Thriftway in Newport, we would like to convey our support for the City of Newport's effort to secure funding to develop a plan to help revitalize commercial areas in the central part of the city. Being at the northwest corner of the US 101/20 intersection, we have observed firsthand how a transportation system that is overtaxed creates challenges for the businesses that rely upon it. Many of the storefronts south along US 101 are now vacant with aging buildings that are in a state of disrepair. It is an area that is sorely in need of reinvestment, and the City can help set the stage for that to happen.

We appreciate the City's efforts to create an urban renewal district to generate funding for future street improvements, and have participated in the Transportation System Plan (TSP) update that is identifying a package of planned improvements to improve traffic flow and safety, and redefine the streetscape to catalyze redevelopment. It is our understanding that the City intends to use the grant funds to (a) develop a set of land use regulations and design standards for private property to guide development in a manner that complements recommended transportation improvements, and (b) create a building façade improvement program to help land owners accelerate redevelopment of their property in line with the new rules. This is a logical and reasonable next step, that will provide property owners a clear sense of possibilities and resources to make change a reality.

Lack of affordable housing is a challenge in Newport, making it difficult for businesses to recruit talent. There is capacity in this commercial core area of the city for mixed use development, to create a live-work environment where residents would have convenient access to employment and essential services. It is our understanding that this planning effort will identify steps the City can take to incentivize this type of development. If this is done thoughtfully, it could really reinvigorate the area while also providing much needed housing that would benefit the community as a whole.

Thank you for your time and consideration.

Sincerely,

Diane Vickers-Mattson

Lyle Mattson and Diane Vickers Mattson
Manager and Owners
JC Market Newport

Oregon Department of Transportation
Transportation and Growth Management Program
555 13th St., NE
Salem, OR 97301

To Whom it May Concern,

As the owners of Bier One in Newport, we would like to express our support for the City of Newport's effort to secure funding to develop a plan to help revitalize commercial areas in the central part of the city. As a small business, we know firsthand how challenging it is to successfully operate in this part of town. Our previous location, along US 101, is now a string of vacant storefronts. While the highway is effective at moving traffic, it doesn't serve businesses well. It is too congested and people don't feel safe parking or walking.

Recently, we moved our business to a location along SW 9th Street, which parallels the highway, and are renovating the property. One of the transportation projects the City is exploring is to change US 101 into a couplet with northbound traffic being diverted onto 9th Street. This would pass in front of our business, providing valuable exposure and the wider sidewalks, bike facilities, and parking would greatly benefit our customers.

Identifying a street improvement project won't by itself, make things better. We understand that the City will use these grant funds to build upon the transportation plans it is developing to (a) develop a set of land use regulations and design standards for private property to guide development in a manner that complements recommended transportation improvements, and (b) create a building façade improvement program to help land owners accelerate redevelopment of their property in line with the new rules. This is a logical and reasonable next step, that will provide property owners a clear sense of possibilities and resources to make change a reality.

Lack of affordable housing is a challenge in Newport, making it difficult for businesses to recruit talent. There is capacity in this commercial core area of the city for mixed use development, to create a live-work environment where residents would have convenient access to employment and essential services. It is our understanding that this planning effort will identify steps the City can take to incentivize this type of development. If this is done thoughtfully, it could really reinvigorate the area while also providing much needed housing that would benefit the community as a whole.

Thank you for your time and consideration.

Sincerely,

Luke & Chris Simonsen, owners
Bier One Brewing

City of Newport
169 SW Coast Highway
Newport, OR 97365

Coast Guard City USA

www. newportoregon.gov
541-574-0603

Sister City Mombetsu, Japan

Bicycle and Pedestrian Advisory Committee

Oregon Department of Transportation
Transportation and Growth Management Program
555 13th St., NE, Salem, OR 97301

July 28, 2021

On behalf of the Newport Bicycle and Pedestrian Advisory Committee I would like to convey our support for the City's effort to secure grant funds to develop a plan to facilitate the revitalization of Newport's commercial core areas. The transportation network in this area is fragmented, and focused too heavily on moving freight and passenger vehicles through the community, to the detriment of those that would walk or bike to area services and businesses. Not surprisingly, businesses in the commercial core are struggling and many of the storefronts are vacant with buildings that are in a state of disrepair.

We understand that the City intends to use the grant funds to (a) develop a set of land use regulations and design standards for private property to guide development in a manner that complements recommended transportation improvements, and (b) create a building façade improvement program to help land owners accelerate redevelopment of their property in line with the new rules. This is timely and important work that will follow on the heels of a Transportation System Plan update that has identified potential solutions to the transportation problems that plague the area, such as converting a portion of US 101 to a couplet so that wider sidewalks and dedicated bike facilities can be constructed.

The Bicycle and Pedestrian Committee has been, and will continue to be, actively engaged in the Transportation System Plan update as that process winds down, and in the implementation of that plan in the coming years. Our expectation is that our work will ultimately lead to a reshaped transportation system and streetscapes that better meet the needs of walkers and cyclists. This cannot be achieved if investments are limited to public spaces and City rights-of-way. Thoughtful consideration must be given to how land use regulations and design standards that apply to adjoining private properties can be reshaped to incentivize redevelopment that complements the improved transportation system. This could include additional allowances for multi-family housing or mixed-use development along commercial corridors, where residents can conveniently and safely walk or cycle to places of employment, or essential services. Any incentives the City can provide to accelerate new investment would also be welcome.

Thank you for your careful consideration of the City of Newport's grant application. We in the Bicycle and Pedestrian Committee look forward to continuing our work to improve walking and cycling opportunities in the City's commercial core areas.

Sincerely,

Michael Rioux, Chair
Newport Bicycle and Pedestrian Advisory Committee

RACIAL AND ETHNIC IMPACT STATEMENT

This form is used for informational purposes only and must be included with the grant application.

Chapter 600 of the 2013 Oregon Laws require applicants to include with each grant application a racial and ethnic impact statement. The statement provides information as to the disproportionate or unique impact the proposed policies or programs may have on minority persons[1] in the State of Oregon if the grant is awarded to a corporation or other legal entity other than natural persons.

1. ☐ The proposed grant project policies or programs could have a disproportionate or unique positive impact on the following minority persons:

   Indicate all that apply:

   - ☐ Women
   - ☐ Persons with Disabilities
   - ☐ African-Americans
   - ☐ Hispanics
   - ☐ Asians or Pacific Islanders
   - ☐ American Indians
   - ☐ Alaskan Natives

2. ☐ The proposed grant project policies or programs could have a disproportionate or unique negative impact on the following minority persons:

   Indicate all that apply:

   - ☐ Women
   - ☐ Persons with Disabilities
   - ☐ African-Americans
   - ☐ Hispanics
   - ☐ Asians or Pacific Islanders
   - ☐ American Indians
   - ☐ Alaskan Natives

3. ☑ The proposed grant project policies or programs will have no disproportionate or unique impact on minority persons.

If you checked numbers 1 or 2 above, please provide below the rationale for the existence of policies or programs having a disproportionate or unique impact on minority persons in this state. Further provide evidence of consultation with representative(s) of the affected minority persons.

☑ *By checking this box, I hereby certify the information contained on this form is true, complete, and accurate to the best of my knowledge.*

Dated: July 20, 2021

Printed Name: Derrick I. Tokos, AICP Title: Community Development Director

Agency Name: City of Newport

[1] "Minority person" are defined in SB 463 (2013 Regular Session) as women, persons with disabilities (as defined in ORS 174.107), African Americans, Hispanics, Asians, or Pacific Islanders, American Indians and Alaskan Natives.

TGM Grant Applications 2021
Summary of Requested Funding

	Category 1	Category 2	**Region Total**
Region 1	$ 800,224	$ 100,000	$ 900,224
Region 2	$ 1,704,900	$ 495,000	$ 2,199,900
Region 3	$ 195,000	$ 150,000	$ 345,000
Region 4	$ 250,000	$ 175,000	$ 425,000
Region 5	$ 130,000	$ -	$ 130,000
Statewide Total	$ 3,080,124	$ 920,000	$ 4,000,124

TGM Grant Applications 2021
Region 1

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
1.01-21	City of Gresham	Transportation System Plan Phase II Update	1	$ 200,000	The Transportation System Plan Phase II project will update the City of Gresham's Transportation System Plan (TSP) by addressing major policies, action measures and implementation plans related to four topic areas: equity, climate impacts, traffic safety, and emerging technology. The TSP has not been fully updated since adoption in 2013. Since that time regional policy and the City's attention to these issues has changed dramatically. The project will use consultant assistance and a robust public involvement process to create a safer, more equitable, and sustainable vision for Gresham's transportation future. The outcome is a hearings-ready text amendment to Gresham's Transportation System Plan with policies on equity, climate impacts, traffic safety, and emerging technology. Project includes Planning Commission and City Council adoption hearings prior to project completion.
1.02-21	City of Milwaukie	TSP - Full Revision	1	$ 250,000	The City's current TSP was adopted in 2008. While parts have since been updated, much remains out-of-date and not informed by the 2020 Comprehensive Plan update, the 2018 Climate Action Plan, extension of light rail to the City, and the level of development not seen in the recent past. A full TSP revision will allow the City to address the community's emerging needs, preferences, and goals specifically related to transportation, as well to address the goals and policies identified in the Comprehensive Plan as they relate to transportation, including: equity, climate change, housing, urban design, and economic development. The Milwaukie community is highly engaged and a robust outreach plan will be a critical component of the process. The wholly revised TSP will guide the City on how best to plan and develop "A complete network of sidewalks, bike lanes, and paths along with well-maintained streets and a robust transit system connect our neighborhood centers" as stated in the Milwaukie 2040 Vision.

TGM Grant Applications 2021
Region 1

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
1.03-21	City of Tigard	Tigard Electrific Vehicle Strategy	1	$ 100,224	This project will create an Electric Vehicle (EV) Strategy to update local policy guiding the transition to electric vehicles inclusive of personal and shared vehicles, e-bikes, and micro-mobility modes. It will support local, regional, and statewide transportation sector greenhouse gas (GHG) reduction goals. The project will evaluate implementation actions and make policy recommendations that support EV use. Policy recommendations will include but not be limited to amendments to Tigard's Comp Plan, TSP, Development Code, and engineering design standards, as well as programs, public investment, and public/private partnerships to support EV adoption. Foundational to the planning effort is Tigard's Strategic Plan, which prioritizes equity in all city activities, walkability, equal access to city services, processes, and infrastructure, and community health. Additionally, the project and outcomes are supportive of Tigard's Council Goal 3, which calls for bold climate mitigation activities.
1.04-21	Washington County	Farmington Corridor Concept and Jurisdictional Transfer Framework Plan	1	$ 250,000	The purpose of this project is to develop a context-sensitive corridor concept plan that would safely accommodate all users and modes in partnership with the Oregon Department of Transportation and City of Beaverton for the section of SW Farmington Road under State of Oregon jurisdiction between SW 209th Avenue and SW Kinnaman Road within unincorporated Washington County. The plan would include a framework for jurisdictional transfer from State to County ownership in accordance with long-standing local and regional policies. The project will develop findings and recommend a preferred corridor design concept and project cost estimate for adoption into the Washington County Transportation System Plan (TSP). The project will support the corridor's near-term implementation potential.
		Category 1 Subtotal		***$ 800,224***	

TGM Grant Applications 2021
Region 1

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
1.05-21	City of Sandy	Sandy Comprehensive Plan	2	$ 100,000	The City of Sandy is undertaking a complete update of the City's Comprehensive Plan. The current Comprehensive Plan, adopted in 1997, does not adequately reflect the needs of the growing population, increasing development, and land use demands that Sandy has experienced in recent decades. Therefore, an updated Comprehensive Plan that holistically addresses land use, housing, transportation, natural resources, climate change, economic development, and hazard mitigation is greatly needed. The desired outcomes of the Comprehensive Plan include a greater emphasis on managed growth, plans adequate transportation infrastructure development, strategies for climate resilience, a roadmap for future development goals, and increased citizen participation in planning processes. The final Comprehensive Plan is anticipated to be adopted in Fall/Winter of 2023.
		Category 2 Subtotal		***$ 100,000***	
		Region 1 Total		**$ 900,224**	

TGM Grant Applications 2021
Region 2

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
2.01-21	City of Aumsville	Transportation System Plan and Interchange Development Zone Updates	1	$ 250,000	The City of Aumsville's Transportation System Plan was created in 2010. It has not been updated since that time. While we've experienced growth since that time, some of the development originally planned, including major commercial development in our Interchange Development Zone has not occurred and we would like to re-examine this area in more details and update some of the original assumptions. This major commercial development in the ID Zone was an integral part of the 2010 plan. Due to changes in development and our plan for growth we would like to complete a new Transportation System Plan.
2.02-21	City of Carlton	Transportation System Plan Update	1	$ 150,000	The City of Carlton is experiencing growth at a rate higher than ever before. Carlton's ideal location and proximity for the movement of goods and services, growing tourism base, and community atmosphere are attracting new residents and businesses. This rapid growth has created multiple transportation concerns for both vehicles and pedestrians. The increase in tourism has also brought to light the lack of adequate pedestrian and bicycle facilities in the city. Because of this, the city is not multi modal compliant or accessible, which is a city Council goal. Safety and emergency vehicle access throughout the city is a main concern. Currently, our TSP allows for narrow streets, too small of radius cul-de-sacs and a lack of collector streets. These, and other issues confine our larger firetrucks to accessing all areas of the city. This is a high concern of our TSP update in order to maintain fire safety within the city.
2.03-21	City of Coburg	Transportation System Plan Update	1	$ 100,000	The purpose of the project is to complete a full update to the Coburg Transportation System Plan. Current plan is two decades old (1999). In 2012, the City undertook an effort to update it. Locally approved by both City and County, it was not acknowledged by the State because it was tied to an Urban Growth Boundary expansion for residential lands and included the expansion area and transportation projects outside of the current City limits. The expansion was appealed, remanded and, ultimately, abandoned. Neither the 1999 Plan nor the locally adopted TSP reflects recent community visioning processes, recent Comprehensive Plan and Development Code amendments, nor a recently conducted Built-Out Scenario Community Engagement project. A full TSP update will better anticipate the projected growth of the community, more fully acknowledge and address the unexpected flow of commuter traffic.

TGM Grant Applications 2021
Region 2

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
2.04-21	City of Harrisburg	Transportation System Plan Update	1	$ 162,800	The City of Harrisburg TSP was adopted in 1999. Since that adoption, the UGB has expanded by 383 acres, population has grown by 30%, and the City has purchased and is planning the further development of a 132 acre riverfront park. This rapid growth has resulted in gaps in our transportation systems for vehicles, pedestrian's, cyclists, and vulnerable populations. An updated TSP will help Harrisburg to balance and interconnect our transportation network, as well as integrate with the complete revision of our Zoning and Subdivision development codes. The primary outcome is to adopt and implement an updated TSP. Other outcomes will include a revision of the Street Capital Improvement Plan as well as Transportation SDC's, both of which are also over 9 years old, and require updates. The TSP will be a support document for the growth of the City into areas in which residential development will occur, as well as improving overall connectivity in the current transportation grid.
2.05-21	City of Lincoln City	East Lincoln City Pedestrian, Safety and System Capacity Area Plan	1	$ 100,100	Update City of the Lincoln City Transportation System Plan by developing an Area Plan. This Plan will analyze a City sub-area between the Tribe's Casino and the Tribal low income residential area to the east along Hwy 101. The City's TSP identifies a project to construct a connector road between NW 44th and NE 44th & Logan Road. This project would complete a traffic analysis of this area, and review pedestrian and bike routes; and will consider traffic enhancements that distribute traffic flows to minimize congestion on Hwy 101 at its intersections with Logan Road and West Devils Lake Road. The goal is to provide a safe route for cars, pedestrian, and bikes between the tribal casino and the Tribal low income residential area; plus safe routes for the north end of of Lincoln City to access Hwy 101. The final product will update the Lincoln City STP and the Tribal TSP. The connector also could serve as a tsunami evacuation route, with FEMA funding a possible source for construction.

TGM Grant Applications 2021
Region 2

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
2.06-21	City of Mt. Angel	Transportation System Plan Update	1	$ 145,000	The Mt. Angel TSP update project is part of a concerted effort to coordinate updates to the City's long-range planning documents. The project, entitled "Mt. Angel Strong: Vision 2040," includes the proposed TSP updated along with an updated HOA and EOA. The goal is to complete the planned HNA and EOA projects in 2022-23, allowing the City to use the HNA and EOA data and policy recommendations to ensure Mt. Angel's transportation system is capable of supporting equitable and sustainable development over the 20 year planning period. The project will update the future streets plan, apply a "Main Street" approach to Hwy 214, identify needed infrastructure improvements and strategies to reduce GHG emissions, and incorporate needs of underserved populations in the TSP. The update will also incorporate policy recommendations and improvements identified during the SRTS action plan scheduled to reach completion in late 2021 to ensure increased bike and pedestrian access to schools and public parks.
2.07-21	City of Sublimity	Transportation System Plan	1	$ 165,000	This project updates the City Transportation System Plan (TSP), last updated in 1998. The project will explore existing and future traffic conditions, evaluate alternatives for mitigating congestion, and propose infrastructure improvements with associated cost estimates for future development. Work will include evaluation of pedestrian and bicycle transportation options and infrastructure, as well as opportunities to better connect to the neighboring city of Stayton's transportation infrastructure. Public involvement will be a key component of the project through surveys, stakeholder meetings and open houses. The final product will be an adopted TSP with associated comprehensive plan goals, as well as updated SDC methodology. This will ensure that Sublimity accommodates future growth while retaining a compact, walkable, small town aesthetic.

TGM Grant Applications 2021
Region 2

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
2.08-21	City of Tangent	Transportation System Plan Update	1	$ 210,000	The 2010 Tangent TSP is in dire need of an update. Linn County, AAMPO, the City of Albany all have recently updated TSP with which Tangent must keep pace in order to remain contemporary with regional transportation planning objectives and visions. The project evaluates existing transportation goals against changes since the 2010 TSP, development forecasts, and current and future transportation needs across all modes, redefining transportation goals, identifying corresponding projects to guide development for the planning horizon. Local and regional needs and opportunities are consistent with TGM Objectives cited in the application narrative. The end products will be an adopted TSP and implementing plan and code amendments.
2.09-21	City of Turner	Transportation System Plan Update	1	$ 172,000	As a satellite community of Salem, Oregon, the City of Turner, population 2500, is undergoing a major transition. Residential and commercial growth has been substantial, and key public agency partners are engaged in growth related considerations for their own facilities. With an urban growth boundary expansion application pending, a TSP update will ensure: • Growth related impacts have a comprehensive planning strategy to guide successful development and management of the transportation system; • Marion County and Turner road changes become standardized and coordinated, creating public expenditure efficiencies and a more seamless road system; • Multi-modal transit opportunities are upgraded, benefiting commercial access, community mobility and climate change; • Critical planning support is provided for funding opportunities that would support larger system upgrades; • Provide a professionally led conversation on transportation and growth for both community members and the city council

TGM Grant Applications 2021
Region 2

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
2.10-21	Corvallis Area MPO	Highway 20 Corridor Investment Strategy	1	$ 250,000	Highway 20/34 between Philomath and Albany serves as the transportation backbone for commuters, recreationalists, freight, and local residents. Over the next 20 years, significant growth is expected to put more pressure on this already congested section of highway. While some congestion is to be expected, the communities along the Highway 20 corridor are expected to grow over 30 percent in population and households. If all of the additional trips these new residents take are by personal vehicle, the route will be impassible. While many jurisdictions identify the Highway 20 Corridor as an issue during their recently developed transportation system plans, none of them dive into the details of solutions. The purpose of this project is to investigate the range of multi-modal investments that can decrease demand along this corridor for single occupancy vehicles, thereby reducing greenhouse gas emissions, eliminating the need to expand the highway, and allow for efficient travel by all modes.
		Category 1 Subtotal		***$ 1,704,900***	
2.11-21	City of Dallas	Dallas Mill Site Redevelopment Plan	2	$ 125,000	Within Dallas, Oregon exists a large former wood products mill site that has been vacant and largely unutilized for over a decade. The mill was operated for many years by Willamette Industries, later by Weyerhaeuser. In 2009 Weyerhaeuser officially closed the mill and sold the property in 2012 to an industrial dismantler company. Today, the site is mostly clear of mill equipment and structures (a few remain). There is no currently identified end use for the property, which encompasses over 66 acres among 10 tax lots. An existing short line railroad is within the site. The property owner, the City and regional economic development staff believe the site has potential to accommodate a variety of industrial, commercial and even potentially higher-density residential uses. The current concept focuses on rezoning portions of the site from industrial to commercial, addressing the identified commercial land deficiency in Dallas, and creating a new public roadway bisecting the site from east-west.

TGM Grant Applications 2021
Region 2

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
2.12-21	City of Depoe Bay	Update Comprehensive Plan for the City of Depoe Bay	2	$ 130,000	The Project will update the City's Comprehensive Plan. It will entail analysis, evaluation, and selection of alternatives for city goals and implementation actions. An adoption-ready plan from a robust public involvement process is central to the Project and will culminate in adoption hearings at both the Planning Commission and the City Council. The Project will lead to local policy decisions: The City intends to pursue the adoption of the updated Comprehensive Plan. The Project will accomplish TGM Objective 4 to develop policy and other guidance to support compact land uses and well-connected transportation patterns. Our 2016 TSP encourages urban growth to be accommodated within our existing city limits, thus minimizing, delaying, or providing an alternative to an urban growth boundary expansion. We need to integrate the TSP into our comprehensive plan in order to accommodate future transportation needs within the existing or improved system.
2.13-21	City of Independence	Central Talmadge Plan	2	$ 100,000	This project would complete a subarea plan transform an auto-oriented, strip commercial portion of the City of Independence, centered around Central High School and Central Plaza Shopping Center, into a mixed-use center. As envisioned, the plan would build on the alternative transportation routes and amenities identified in the 2021 Independence Transportation System Plan and identify zoning changes necessary to promote a more vital, walkable/bikeable, mixed-use development pattern in the area.
2.14-221	City of Newport	City Center Revitalization Projectt	2	$ 140,000	Newport's City Center is concentrated along the US 20/101 commercial corridors between the east entrance to the City and the Yaquina Bay Bridge. It is an area where many of the properties are underutilized or in economic distress with vacant storefronts and aging, poorly maintained buildings. The City established an urban renewal district in 2015 to generate funding to revitalize the area, and has partnered with ODOT on a TSP update to identify how the transportation system can be redefined to catalyze economic development and provide infrastructure needed to support additional density. This project will develop a set of land use policies and regulations, with financial incentives, to support reinvestment in the area in a manner that compliments identified transportation solutions, and promotes mixed use development to create a live-work environment where residents have convenient access to employment and essential services.
		Category 2 Subtotal		***$ 495,000***	
		Region 2 Total		**$ 2,199,900**	

TGM Grant Applications 2021
Region 3

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
3.01-21	City of Bandon	Transportation System Plan Update	1	$ 145,000	The City of Bandon is requesting funding to update our Transportation System Plan from 2000. In the previous 20 years, projects have been built-out, demographics have changed, and new land use demands have emerged. A plan is needed to address these changes and envision a new future. While many goals and objectives remain the same, there are now more funding sources, increased knowledge about the impacts of climate change related to transportation, and new stresses on our system that must be accounted for. We have the following goals in mind: • Modernize language and update standards to match current practices; • Envision a future transportation system that is robust, accessible, safe, and multi-modal; • Identify and expand backbone pedestrian and bicycle network; • Incorporate impacts of seasonal tourism and respond to expected future growth; • Engage the public in meaningful conversation and participation in development of Plan; • Develop a CIP and prioritize future projects.
3.02-21	Jackson County	Update to Jackson County TSP	1	$ 50,000	The Jackson County TSP was last updated in 2017. Since adoption of our 2017 TSP update House Bill 2017 added substantial funding for road purposes, the Rogue Valley Metropolitan Planning Organization (RVMPO) adopted an Active Transportation Plan (ATP), and the Governor has signed executive orders related to Equity and Climate Change. Jackson County has dedicated the majority of the House Bill 2017 funds to capital improvements, which will result the completion of our 20 year plan within 10 years. Due to the above, the following changes and updates to our TSP are needed: • Incorporate the ATP into the TSP. • Review and update Equity within the TSP. • Update the funding section to reflect HB 2017 revenues. • Update the project list, considering climate change and equity implications. • Minor updates and corrections to road classifications. • Minor technical fixes to problems found in the TSP.
		Category 1 Subtotal		***$ 195,000***	

TGM Grant Applications 2021
Region 3

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
3.03-21	City of Medford	Medford Downtown 2040 Plan	2	$ 150,000	Downtown 2040 Plan that guides the development and redevelopment of this transit oriented district into an exceptional place to live, work, play, and visit. Using existing plans as guidance, the City seeks to provide a new vision for how downtown is developed, experienced, and traversed. The project will adopt a new Downtown Plan into the Comprehensive Plan, evaluate alternative cross sections for highly traveled corridors, and develop code changes to achieve a high standard of urban design and ensure appropriate land uses. Public and private investments, open space, and art can be seen in downtown Medford, but the effects of the COVID-19 pandemic along with vacant or underutilized parcels indicates more needs to done. The City believes in the potential of the downtown and seeks a new plan that identifies opportunities to increase housing options for all, attracts new businesses, increases multi-modal travel, and creates an inviting sense of place.
		Category 2 Subtotal		***$ 150,000***	
		Region 3 Total		**$ 345,000**	

TGM Grant Applications 2021
Region 4

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
4.01-21	City of Klamath Falls	Urban Area Transportation System Plan Update	1	$ 250,000	This project will update the Klamath Falls Urban Area Transportation System Plan (TSP), which was last updated in 2012. This update will accomplish three major goals: 1. Integrate recent and concurrent City, County, Basin Transit Service, ODOT, non-profit, and institutional multimodal planning efforts into the TSP; 2. Coordinate City and County road standards, transportation impact study requirements, and comprehensive plan designations within the City and unincorporated portion of the urban area; and 3. Address the transportation safety and mobility needs of Klamath Falls residents, visitors, employers, and freight shippers. The expected project outcomes consist of (1) an updated Urban Area TSP adopted by both the City and County and (2) improved City and County coordination and consistency on transportation and land use issues in the unincorporated portion of the urban area.
		Category 1 Subtotal		***$ 250,000***	
4.02-21	City of La Pine	Area Planning for Newberry Neighborhood	2	$ 175,000	The project endeavors to provide a technical review of the City of La Pine's Comprehensive Plan and Development code with relation to the Newberry Neighborhood, a 325 acre County owned parcel in central La Pine. This technical review will result in local stakeholder engagement visioning and a market analysis which will drive master planning for future multi-modal transportation and long range residential planning efforts to support the ongoing housing crisis in Central Oregon. This effort would coincide with the City of La Pine's infrastructure expansion project which is slated to expand water and sanitary sewer to the north end of the City over the next several years. This acreage is currently developed to the south by several completed and ongoing project subdivisions, and represents an opportune location within Deschutes County for the integration of area transportation needs in concert with future housing development.
		Category 2 Subtotal		***$ 175,000***	
		Region 4 Total		**$ 425,000**	

TGM Grant Applications 2021
Region 5

Application Code	Primary Applicant	Project Title	Category	Amount Requested	Application Summary
5.01-21	City of Elgin	Elgin-to-Lookingglass Joseph Branch Trail-With-Rail Refinement Plan	1	$ 130,000	This project will develop a refinement plan for the inaugural 13-mile Elgin-to-Lookingglass segment of a longer, proposed 63-mile Trail-With-Rail that will run alongside an existing railroad between Elgin and Joseph in NE Oregon, connecting rural communities in Union and Wallowa counties by providing multimodal transportation options for these underserved communities. The inaugural segment will start at the TGM-funded Train Depot in Elgin and run 13 miles out of town to Lookingglass. The outcome will be a detailed trail refinement plan that addresses alignment, safety, general design, road crossings, connections to other transportation options, materials, adjacent landowner concerns, etc. and positions the project for streamlined design, engineering and leveraging future funding for the full trail, which will provide an alternative transportation route to Oregon Route 82 and bring economic benefits and access to healthy physical activity to residents and visitors, while reducing GHG emissions.
		Category 1 Subtotal		***$ 130,000***	
		Category 2 Subtotal		***$ -***	
		Region 5 Total		**$ 130,000**	

Tentative Planning Commission Work Program

(Scheduling and timing of agenda items is subject to change)

April 12, 2021 — Work Session

- Yaquina Bay Estuary Management Plan Update (Presentation/Discussion)
- Review Initial Draft of Code Amendments Related to Operation of Food Trucks & Food Carts
- KPFF Assessment of Beach Accesses for Resiliency Retrofit (Informational)

April 12, 2021 — Regular Session

- Hearing on File 4-Z-20 Implementing HB 2001 Duplex, Townhouse, and Cottage Cluster Standards

April 26, 2021 — Regular Session

- File 1-NB-21/2-CUP-21, Design Review Hearing on Hallmark's Whaler Motel Expansion
- File 1-NCU-21, Expansion of Non-Conforming Mobile Home Park from 14 to 16 Spaces (4263 S Coast Hwy)
- File 2-NCU-21, Expansion of Non-Conforming Natural Gas Facility (1702 SE Bay Blvd)

May 3, 2021 — Special Joint Commission/City Council Work Session

- Transportation System Plan Draft Solutions Discussion, 2nd Round Public Outreach – Part 1

May 10, 2021 — Regular Session

- Final Order/Findings, Expansion of Non-Conf. Mobile Home Park from 14 to 16 Spaces (4263 S Coast Hwy)
- Final Order/Findings, Expansion of Non-Conforming Natural Gas Facility (1702 SE Bay Blvd)

May 17, 2021 — Special Joint Commission/City Council Work Session

- Transportation System Plan Draft Solutions Discussion, 2nd Round Public Outreach – Part 2

May 24, 2021 — Work Session

- Status Update SB / US 101 Corridor Refinement Plan
- Review DLCD/City Evaluation of Beach Access Points Prioritized for Resiliency Retrofit
- Review of Draft Code Amendments Related to Food Trucks & Carts

May 24, 2021 — Regular Session

- Deliberations and Decision on File 1-NB-21/2-CUP-21, Design Review Hearing on Hallmark's Whaler Motel Expansion (Final Order and Findings will be available for potential adoption)
- File 4-CUP-21, Public Hearing for an Historic Themed Photo Studio in the W-2 Zone (342 SW Bay Blvd)
- Initiate Legislative Process to Amend the Newport Zoning Ordinance Related to Food Cart

June 14, 2021 — Work Session

- Review and Provide Feedback on SB / US 101 Corridor Refinement Plan Survey Questions
- Alternate Design Standards for Low Volume Local Roads (Discussion)
- Review Scope of Work for HB 2003 Compliant Housing Capacity Analysis and Housing Production Strategy (App Due 6/30/21)

June 28, 2021 — Work Session/Regular Session Cancelled

Tentative Planning Commission Work Program

(Scheduling and timing of agenda items is subject to change)

July 12, 2021 Work Session

- Review TSP Tech Memo #10 (Transportation Standards)
- Submitted SOW for DLCD Housing Capacity Analysis & Housing Production Strategy Grant (Informational)

July 12, 2021 Regular Session

- File No. 1-Z-21, Public Hearing on Food Truck and Food Cart Amendments

July 26, 2021 Work Session

- SB / US 101 Commercial Industrial Land Use Code Audit Desired Outcomes (JET Planning to Attend)
- Review File No. 1-Z-21, Food Truck and Food Cart Policy Options Prior to Hearing
- Draft Event Plan from JLA/DKS for TSP Online Open House Preference/Prioritization Survey
- Draft TGM Grant Application to Update Land Use Regulations along US 101/20 Corridor and Develop Business Façade Improvement Program to Complement TSP Recommendations (App Due 7/30/21)

July 26, 2021 Regular Session

- Continued Hearing File No. 1-Z-21, Food Truck and Food Cart Amendments

August 9, 2021 Work Session

- Review TSP Tech Memo #8 (Solutions Evaluation)
- Land Use, Building, and Urban Renewal Bill Summary from 2021 Legislative Session
- Submitted TGM Grant Application (Informational)

August 9, 2021 Regular Session

- File PD-21, Amendment to Wilder PD Related to Permissible Street Cross-Sections (Firm)

August 23, 2021 Work Session

- Review TSP Tech Memo #11 (Alternate Mobility Standard)
- Memo from SB / US 101 Opportunities and Constraints Online Survey/Focus Groups (Informational)
- Project Concepts with Cost Estimates for Final SB URA Investments and Draft Prioritization Survey

August 23, 2021 Regular Session

- TBD

September 13, 2021 Work Session

- Review TSP Memo #12 (Draft Ordinances Amending Comp Plan Policies and NMC Chapters 13 and 14)
- Discuss Scope of Amendments to NMC 14.14 Parking, to Support Bayfront Permit/Meter Rollout
- Results from TSP Online Open House Preference/Prioritization Survey and Related Outreach

September 13, 2021 Regular Session

- TBD

September 21, 2021 Special Joint City Council/Planning Commission Work Session

- Review Draft TSP Update (Incorporating all Tech Memos and Outreach Feedback)

September 27, 2021 Work Session

- Review Draft Set of Recommended Commercial/Industrial Code Revisions (from JET Planning Audit)
- Draft Recommendation for Distribution of Affordable Housing CET Funds (from Ad-Hoc Work Group)
- Second Review of Consolidated TSP Update

September 27, 2021 Regular Session

- Initiate Legislative Process for TSP Update (Project Priorities, Comp Plan Policies, Code Amendments)