

San Juan County Council

February 2020

**Transportation Element
Update Briefing**

**Shannon Wilbur, Senior Project Engineer
Christine Coray, Public Works Project Engineer**

Section B, Element 6: Transportation

- Purpose of Transportation Element
Guide development of transportation facilities and services in SJC in a manner consistent with goals of Comprehensive Plan and Vision Statement.

Transportation Vision Statement

We have water, land, and air transportation systems commensurate with our island culture. Transportation plans carefully consider multimodal transportation and rural character. Expansion or construction of transportation systems, infrastructure, and facilities occurs only based on demonstrated local public need. Advanced communication infrastructure is encouraged.

Background

- 1979 SJC Comprehensive Plan (Comp Plan) first adopted.
- 1990 Growth Management Act (GMA) enacted.
 - RCW 26.70A.70 Comprehensive plans—Mandatory elements.
(6) Transportation element requirements
- 1998 SJC Comp Plan updated to comply with GMA.
- 2010 Transportation Element Updated—Updated inventories.
- 2016 Transportation Element Modified-Moved Non-motorized Transportation discussion to Parks, Trails and Natural Area Plan and Nonmotorized Plan (Parks Plan).

Mandatory Update

- 2016 DCD contracted a review of the Comprehensive Plan as required by GMA.
- DCD developed a Scope of Work for the 2036 Update
- Transportation Element-five mandatory items to be reviewed and updated
 - Update Inventory of air, water, and ground transportation facilities/services
 - Update traffic forecast to cover to cover at least 10 years
 - Update analysis of future funding capabilities to 2036
 - Update multiyear financing plan to 2036
 - Re-assess strategies for if funding falls short of meeting identified needs

Transportation Element—Two Parts

- Transportation Element (Section B Element 6)
 - Provides Transportation Goals and Policies
 - General
 - Air
 - Marine
 - Land
 - Intergovernmental and Regional Coordination
- Appendix 6-Transportation
 - Provides data and analysis as the basis for the goals and policies in the Transportation Element.

The Process

Appendix 6, **data and analyses** are used to update the Element

Transportation
Element
**Goals and
policies**

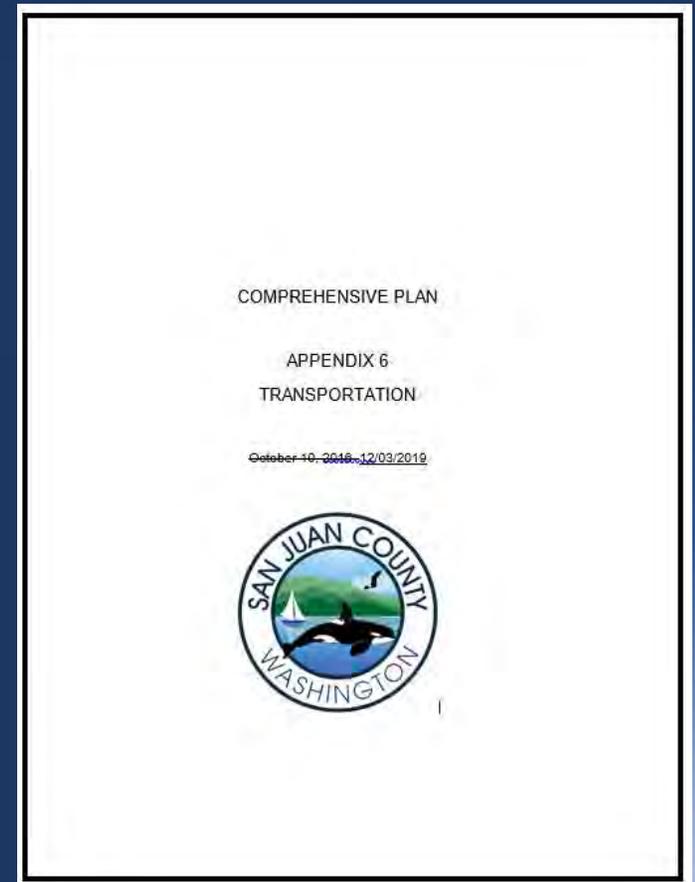
20 Year
Capital
Projects
Priority Array

6 Year TIP

Annual
Construction
Program
(ACP)

Appendix 6 Transportation

- Purpose of Appendix 6
Provide data and analysis as the basis for the goals and policies in the Transportation Element.
- Section I-Transportation Facilities
 - A-Air Transportation
 - B-Marine Transportation
 - C-Land Transportation
 - D-Demand Management Transportation Options
 - E-Freight Mobility
 - F-Intergovernmental Coordination
- Section II-Transportation Financing
 - A-Expenditure
 - B-Revenues



Appendix 6 Transportation

✓ Consistent Format

- Inventory
- Demand/Capacity Analysis
- Long Range Transportation Planning Recommendations

✓ Streamlined

✓ Clarified

Section IA-Air Transportation

1. Inventory of Facilities and Services
 - Reference Port Master Plans
2. Demand/Capacity
 - Reference Port Master Plans
3. Long Range Transportation Planning Recommendations
 - The County shall provide support to the Ports in response to community needs.

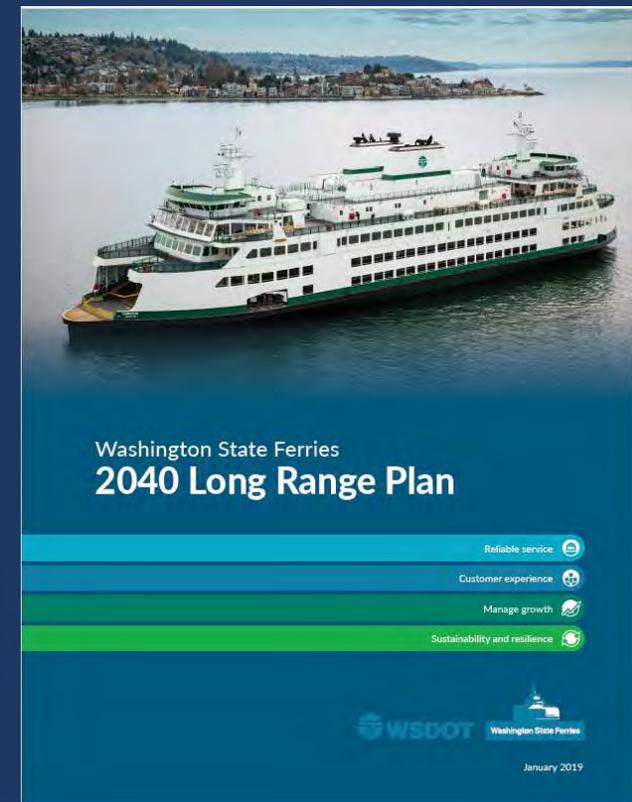


Section IB-Marine Transportation

1. Washington State Ferry System
2. Passenger Ferries
3. County Marine Facilities

Section IB-Marine Transportation

1. Washington State Ferry System
 - a) Inventory
 - Reference Long Range Plan
 - b) Demand/Capacity
 - Reference Long Range Plan
 - c) Long Range Recommendations
 - Marine facilities that provide non-ferry serviced island residents with access to WSF ferry landings.
 - Roadway access to the landings
 - Collaborate with WSF to establish ferry parking



Section IB-Marine Transportation

2. Passenger Ferries

This section provides a summary of the available passenger ferry services and some history of past pilot studies.

The County does not plan to operate a passenger-only ferry, however the County would support a passenger-only ferry by providing roadway and marine facility access as appropriate.

Section IB-Marine Transportation

1. County Marine Facilities

- a) Inventory
- b) Demand/Capacity
- a) Long Range Recommendations



2018
Annual Marine Facility Report



Prepared by:

San Juan County
Public Works Department
August 23, 2019

Reference the Annual Report which has updated inventory, demand, capacity and recommendations



Section IB-Marine Transportation

County Marine Facilities Priorities

- Maintain facilities located on ferry-served island which provide primary access for residents on non-ferry served island.
- Maintain facilities located on non-ferry served islands with County roads.
- Maintain all other facilities.
- Construct new facilities on ferry served islands which provide primary access for residents on non-ferry served islands.
- Construct new facilities on non-ferry served islands with County roads.

Section IB-Marine Transportation

Table 8. County Dock Level of Service

	2010				2021			
	Demand	Capacity	Ratio	LOS	Demand	Capacity	Ratio	LOS
Type 1								
Center Decatur Frost Trump	129	185	1.43	B	133	185	1.39	B
Blakely Obstruction	40	187	4.68	A	44	187	4.25	A
Waldron Wasp	69	120	1.741	B	69	120	1.74	B
Stuart Henry Pearl, Johns Cactus O'Neal Spieden	62	120	1.93	B	71	120	1.69	B
Type 2								
Stuart	35	376	10.74	A	41	376	9.17	A
Waldron	69	248	3.59	A	69	248	3.59	A
Decatur		0	0	F	81	0	0	F
Type 3								
San Juan	76	0	0	F	96	0	0	F
Orcas	76	885	11.64	A	96	885	9.22	A
Leelanau	76	238	3.13	A	96	238	2.48	B
Chaw	76	0	0	F	96	0	0	F

Source: Transpo Group, 2011

We propose to eliminate the Existing County Dock Level of Service

Demand = Existing and projected number of residential dwelling units

Capacity = Length of the dock/float

LOS Rated A-F based on an un-validated definition

Section IB-Marine Transportation

Simplified/Matches Current Prioritization System

Demand/Capacity and Long Range Planning Recommendations
(Evaluated annually)

- Priority of facility
- Condition of facility
- Evidence on inadequate capacity



Section IC-Land Transportation

1. Roads
2. Bridges

Section IC-Land Transportation-Roads

1. Roads

- a) Inventory-Reference Complete Streets Annual Report
- b) Demand/Capacity
 - Includes explanation of Level of Service changes
 - LOS for 2018 to 2036
- c) Long Range Recommendations

Inventory

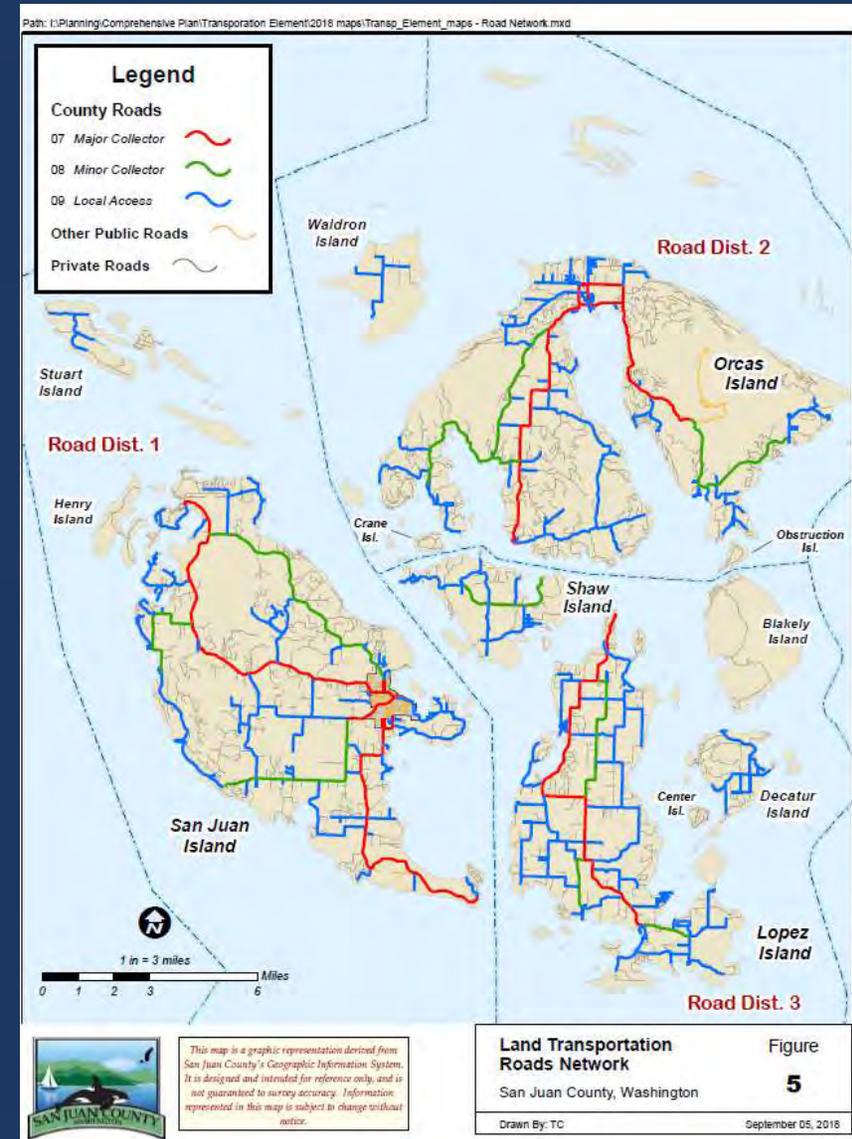
- 745 miles of roadways spread-over 13 islands
- 270 miles of public roads located on 7 islands

Public Road Classifications

Major Collectors - high volume, main access to ferry

Minor Collector - connect major collectors to local

Local Access – low volume, low speed



Roadway Level of Service

Roadway Level Of Service (LOS)



LOS A

Represents the best operating conditions and is considered free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.



LOS B

Represents reasonably free-flowing conditions but with some influence by others.



LOS C

Represents a constrained constant flow below speed limits, with additional attention required by the drivers to maintain safe operations. Comfort and convenience levels of the driver decline noticeably.



LOS D

Represents traffic operations approaching unstable flow with high passing demand and passing capacity near zero. Characterized by drivers being severely restricted in maneuverability.



LOS E

Represents unstable flow near capacity. LOS E often changes to LOS F very quickly because of disturbances (road conditions, accidents, etc.) in traffic flow.



LOS F

Represents the worst conditions with heavily congested flow and traffic demand exceeding capacity. Characterized by stop-and-go waves, poor travel time, low comfort and convenience, and increased accident exposure.

San Juan County Comp Plan set the acceptable LOS as D or better—traffic approaching unstable flow.

Biennial traffic counts are used to evaluate Level of Service for Collector Roads

Current LOS Roadway Standards

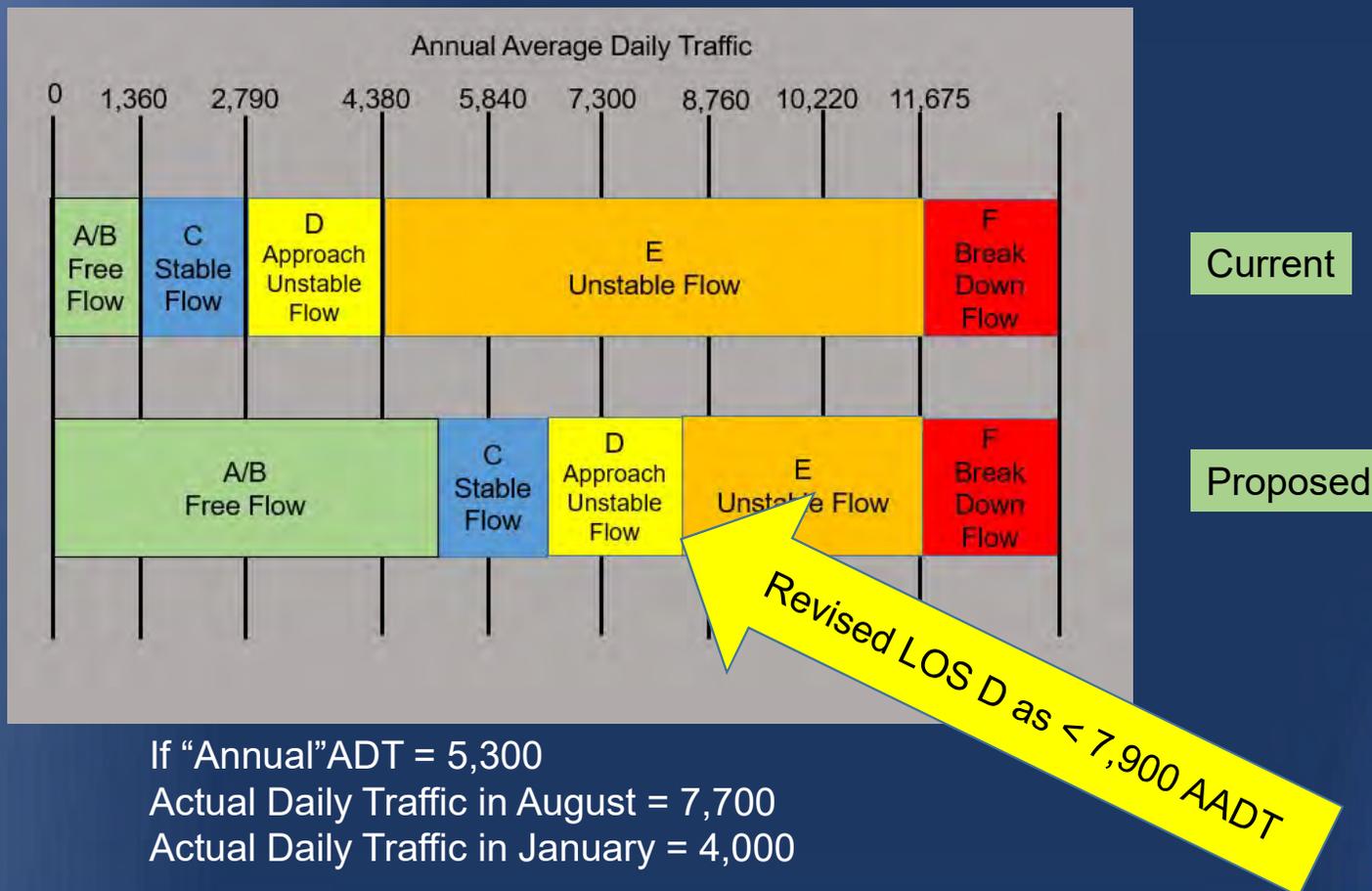
Table 5. Level of Service (LOS) Description and AADT.

LOS	Description	2011 AADT Rolling Terrain
A	Free Flow-Traffic flows at or above the posted speed limit. Motorists have a high level of physical and psychological comfort.	<1,360 for both A/B
B	Reasonable Free Flow-Speeds are maintained, maneuvering is slightly restricted. Motorists still have a high level of comfort.	
C	Stable Flow or Near Stable Flow. Ability to maneuver is noticeably restricted and passing requires more drive awareness.	1,360- 2,790
D	Approaching Unstable Flow. Speeds slightly decrease as volumes slightly increase.	2,790- 4,380
E	Unstable Flow, operating at capacity. Flow becomes irregular and speed varies rapidly. Speeds rarely reach the posted limit. Drivers' level of comfort is poor.	4,380- 11,670
F	Forced or Breakdown Flow. Every vehicle moves in lock step with the vehicle in front of it, with frequent slowing required. A road in constant traffic jam is at LOS F.	>11,670

Comp Plan set the Roadway LOS Standard at LOS D < 4,380 annual average trip per day (AADT)

Several County road currently exceed this AADT;
Roche Harbor Rd and Orcas Rd
but they are **NOT APPROACHING UNSTABLE.**

Proposed LOS Roadway Standards



If "Annual" ADT = 5,300
Actual Daily Traffic in August = 7,700
Actual Daily Traffic in January = 4,000

Updated LOS 2018 to 2036

Table 5. Level of Service (LOS) Description and AADT.

LOS	Description	Old	New
A	Free Flow-Traffic flows at or above the posted speed limit. Motorists have a high level of physical and psychological comfort.	<1,360 for both A/B	<5,300 For both A/B
B	Reasonable Free Flow-Speeds are maintained, maneuvering is slightly restricted. Motorists still have a high level of comfort.		
C	Stable Flow or Near Stable Flow. Ability to maneuver is noticeably restricted and passing requires more drive awareness.	1,360- 2,790	5,300- 6,535
D	Approaching Unstable Flow. Speeds slightly decrease as volumes slightly increase.	2,790- 4,380	6,535- 7,900
E	Unstable Flow, operating at capacity. Flow becomes irregular and speed varies rapidly. Speeds rarely reach the posted limit. Drivers' level of comfort is poor.	4,380- 11,670	7,900- 11,670
F	Forced or Breakdown Flow. Every vehicle moves in lock step with the vehicle in front of it, with frequent slowing required. A road in constant traffic jam is at LOS F.	>11,670	>11,670

All road operating at or below LOS D in 2018 and in 2036

Questions on Roadway LOS?

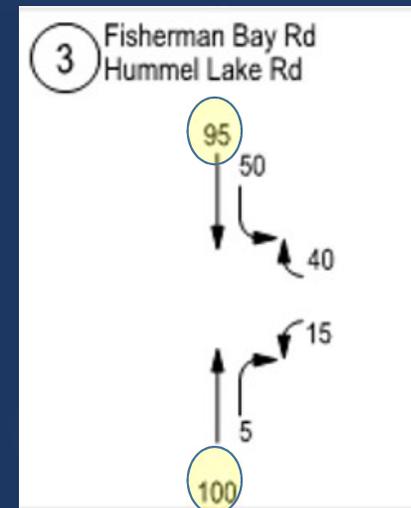
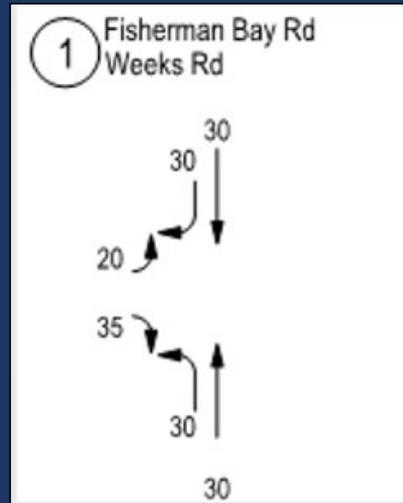
San Juan Island Collector Roads-Level of Service (LOS)						
Road #	Mile Post	Road Name	2018		2036	
			AADT	LOS	AADT	LOS
3	0.83	Roche Harbor Rd	4719	A/B	6107	C
4	6.93	Orcas Rd	3828	A/B	5668	C
4	7.0	Orcas Rd	4856	A/B	7190	D

New Intersection LOS to analyze traffic congestion in UGAs



Select key intersections

Measure peak traffic



Analyze Existing Intersection Delay

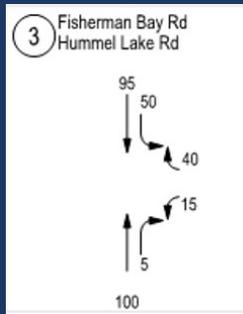
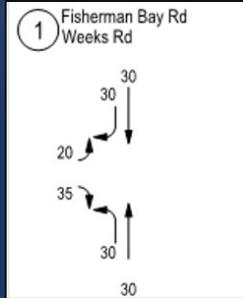


Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)
A	0 - 10
B	>10 - 15
C	>15 - 25
D	>25 - 35
E	>35 - 50
F	>50

Table 3. PM Peak Hour LOS - Existing (2019)

Intersection	2019 Existing	
	LOS ¹	Delay ²
Weeks Rd / Fisherman Bay Rd	A	9.1
Lopez Rd / Fisherman Bay Rd	A	9.1
Fisherman Bay Rd / Hummel Lake Rd	A	9.6
Weeks Rd / Lopez Rd	A	9.1

1. Level of service, based on 2010 Highway Capacity Manual methodology.
 2. Average delay in seconds per vehicle.

Adopt Intersection LOS

Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)
A	0 - 10
B	>10 - 15
C	>15 - 25
D	>25 - 35
E	>35 - 50
F	>50

20 Year Projected Intersection LOS

Based on:

- Land Use Designations
- Population Projections

Estimate intersection traffic and delays

For intersections with excessive delays, design improvements in accordance with Comprehensive Plan.

Questions on Intersection LOS?

Road LRP Recommendations

Priority Array >>>>>Six Year TIP>>>> Annual Construction Program

- Roadway condition
- Biennial traffic counts
- Roadway LOS
- Complete Streets Assessment (multi-modal needs)
- Traffic collisions
- Concurrency evaluations
- Intersection LOS



2018 Deer Harbor Hamlet Trail



2019 Cattle Point Shoulder Widening

2018-2019
Complete Streets
Program Annual
Report



Prepared by:
San Juan County
Public Work Department
July 31, 2019

Section IC-Land Transportation-Bridges

2. Bridges

- a) Inventory—Reference the Annual Bridge Report
 - 4 Bridges on Orcas

- b) Demand/Capacity—Traffic Capacity and Structural Integrity
 - Inspected by Whatcom Bridge Inspectors every two years

- c) Long Range Recommendations
 - Continue to inspect and evaluate the bridges



Deer Harbor Bridge



Buck Bay Bridge



Moran State Park Bridge



West Sound Bridge

2018 Annual Bridge Report



Prepared by:

San Juan County
Public Work Department
March 27, 2019

Section ID-Demand Management

Demand Management is strategies to reduce traffic congestion such as carpooling, transit, biking, and walking.

1. Inventory

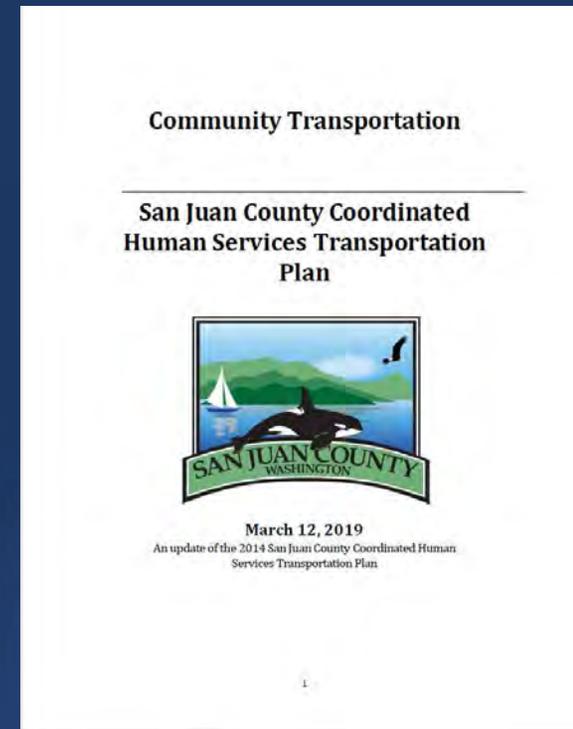
- Limited availability of other modes of transportation

2. Demand/Capacity

- Human Services Transportation Plan identifies gaps and develops strategies

3. Long Range Recommendations

- County does not plan to operate public transit.
- County will continue to support public and private transportation alternatives
- County will continue to upgrade roadways in UGAs to improve accessibility



Section IE-Freight Mobility

The ability to move goods and services within the county, as well as to and from the mainland, is essential to the economic vitality of San Juan County.

- WSF has a “preferred loading” program for commercial vehicles.
- Air facilities in San Juan County provide critical mobility and connectivity for people and freight in the region
- For those islands not served by WSF ferries, local barges and ferries transport a limited number of people and goods between the islands.

Section IF-Intergovernmental Coordination

Brief overview of the Regional Transportation Planning Organizations

In 2015 the Skagit/Island RTPO was disbanded.

San Juan County will continue to have an informal RTPO with Town and the Port Districts.

Appendix 6 Section 1 Summary

- Reorganize sections for consistency.
- Eliminates redundancy and improve accuracy by referencing annual reports.
- Update LOS standards and add intersection LOS standard for UGAs.

Questions?

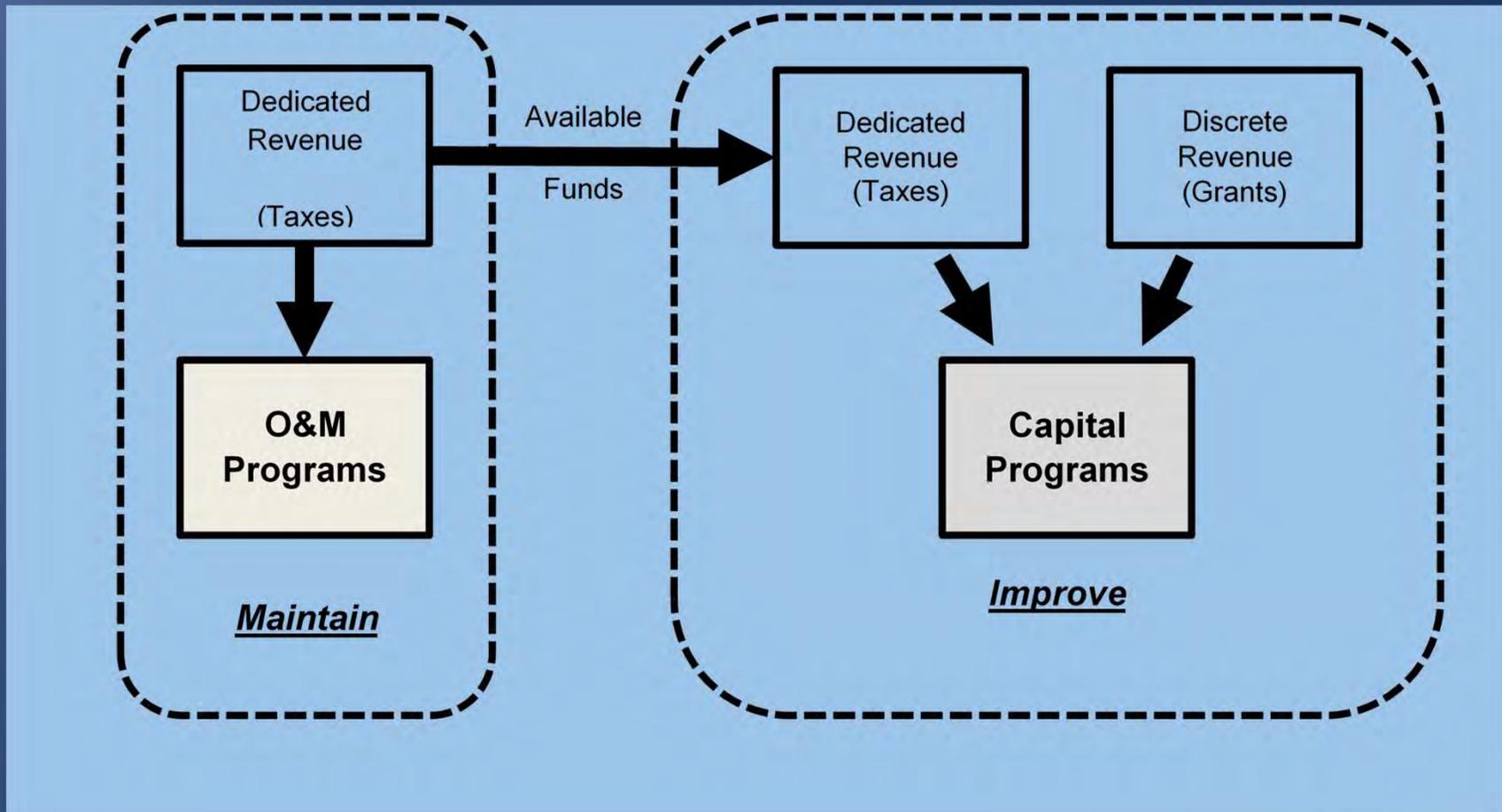
Section 2-Transportation Financing 2019-2036

2A-Expenditures

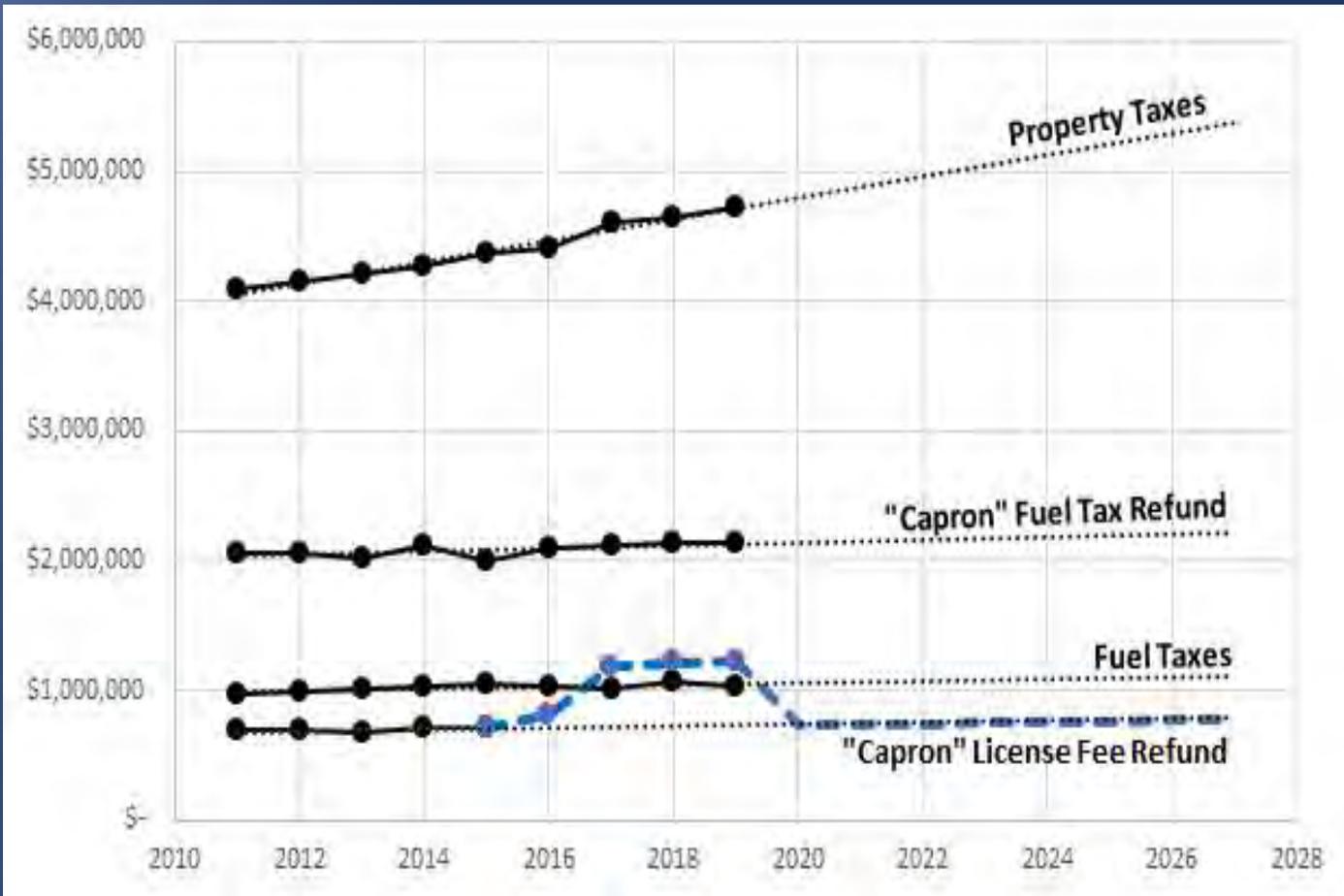
2B-Revenues

2C-Financial Assessment and Recommendations

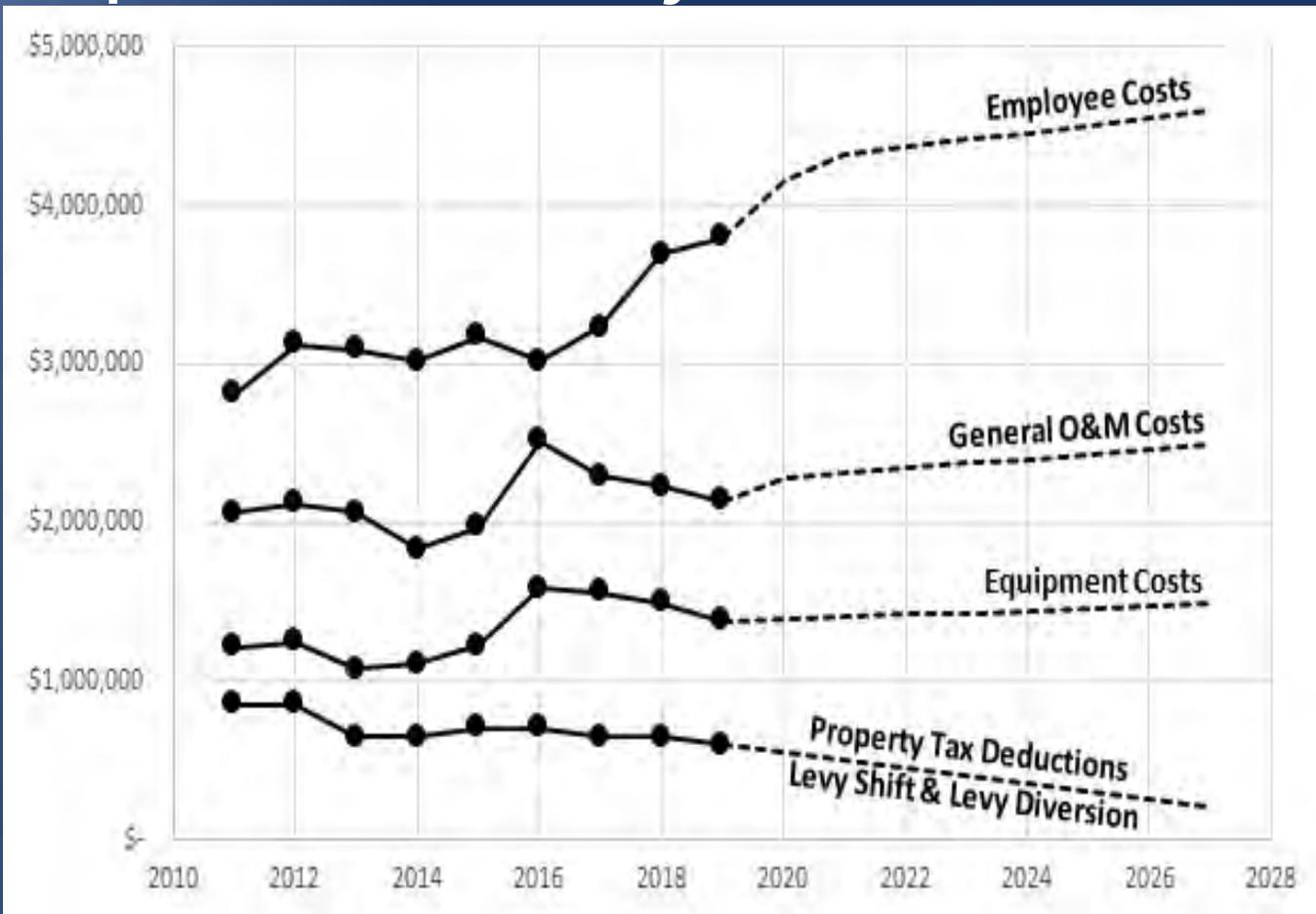
Revenues—O&M vs Capital Programs



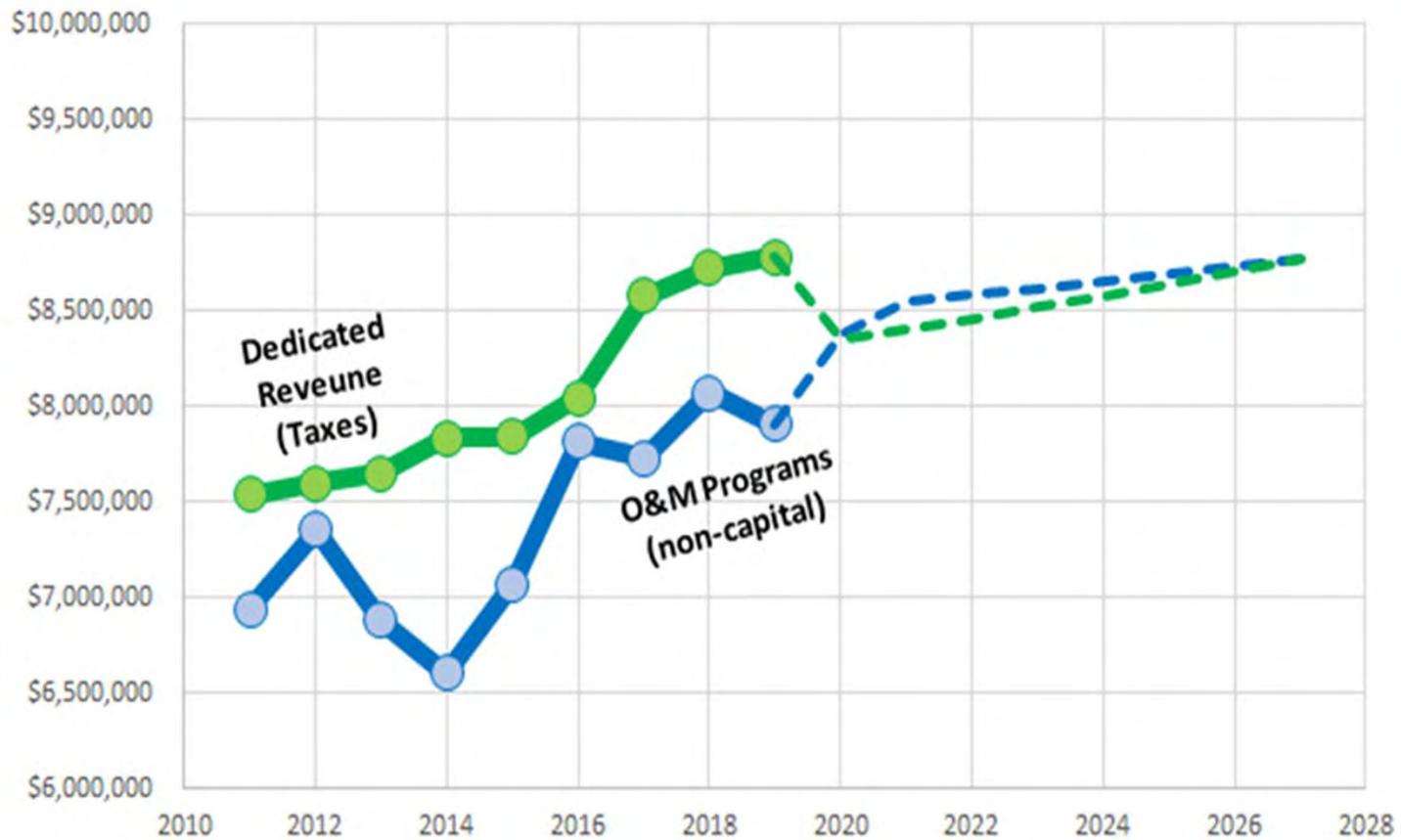
Revenue Projections



Expenditure Projections



Analysis and Projections



Analysis and Projections

3x 6-Year Projections (in millions)			
	2020 - 2025	2026 - 2031	2032 - 2037
Dedicated Revenue (taxes)	\$50.1	\$53.2	\$57.0
O&M Program Expenditures	\$51.5	\$52.8	\$54.3
Balance	(- \$1.4)	\$0.4	\$2.7
Planned Capital Program	\$18.0	\$22.0	\$27.0
Local Funds	-	\$0.4	\$2.7
Grant Funds	\$18.0	\$21.6	\$24.3

Basic Options to Reduce O&M

- Accelerate increasing operational efficiencies.
- Level of service reductions by cutting back on maintenance programs.

Practical Options to Increase Revenue

- Increase road levy (property tax)
- Form transportation benefit districts

Questions on Financial Analyses?

Projections basis of Goals & Policies

Appendix 6 data and analyses are reflected in Goals and Policies

Transportation
Element

Goals and policies
Appendix analysis

20 Year
Capital
Projects
Priority Array

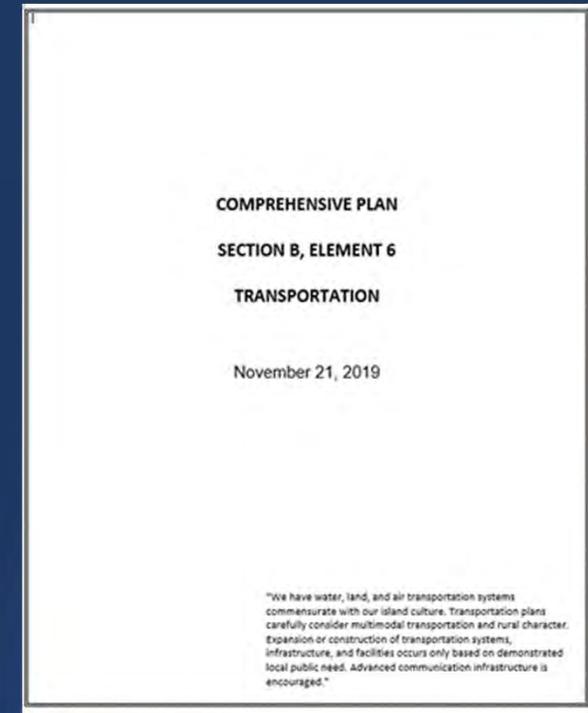
6 Year TIP

Annual
Construction
Program
(ACP)

Questions on Appendix 6?

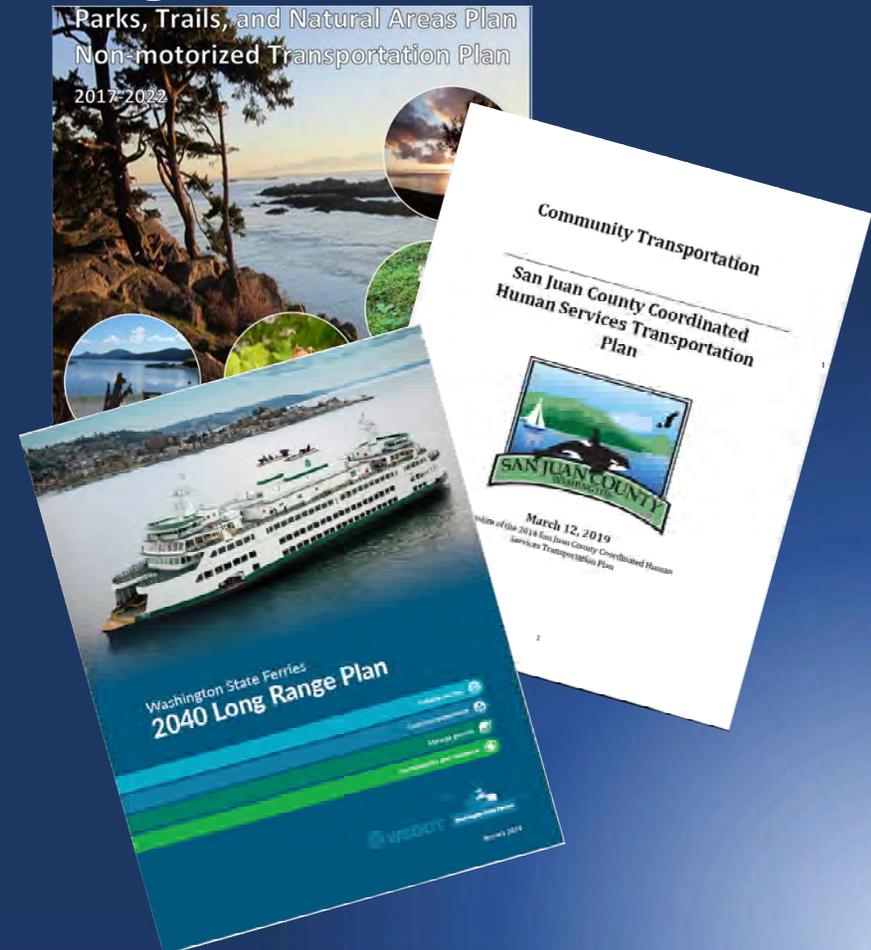
2020 Update of Transportation Element

- Streamlined to eliminate redundancy.
- Updated based on current and future facility demand, capacity, and level of service.
- Incorporates current planning documents.
- Addresses public comments.



Incorporate current planning documents

- SJC Parks, Trails and Natural Areas Plan and Nonmotorized Plan
- SJC Coordinated Human Services Transportation Plan
- SJC Complete Streets Ordinance 24-2018
- WSF Long Range Plan Update
- SJC Appendix 6 Transportation

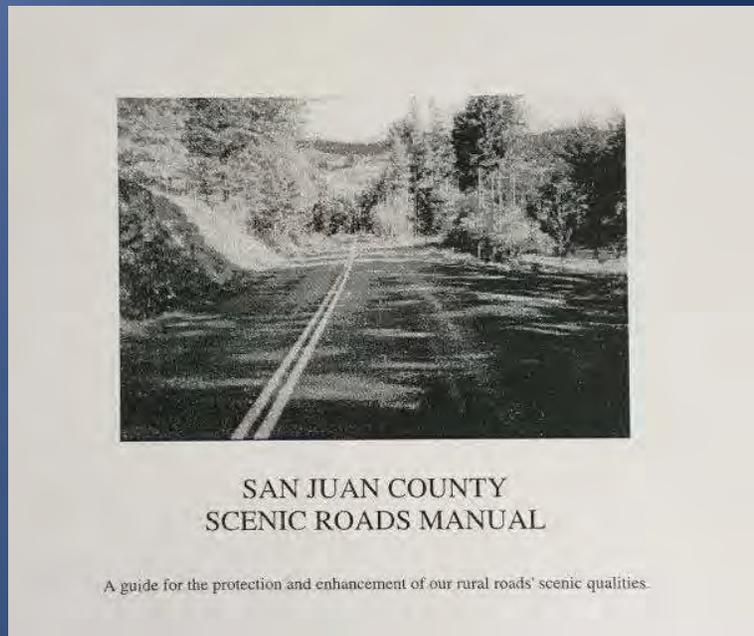


SJC Complete Streets Ordinance 24-2018

- Promote healthy communities by designing walking villages and encourage walking, bicycling and public transportation
- Improve safety by designing roads to accommodate all users
- Reduce congestion by providing safe alternatives to single-occupancy driving
- Preserve the rural character of the community by involving local citizens and stakeholders to participate in planning and design



1995 Scenic Roads Manual and 2018 Complete Streets



- Provide public roads that are safe for all types of traffic
- Protect rural scenic quality of roads



- Improve safety
- Preserve rural quality of communities
- Promote healthy communities
- Reduce congestion

Environmental Theme for Public Comments

(energy conservation, greenhouse gas emission reduction, stormwater/sea level rise planning)

- 6.2.A.3.i. Encourages energy conservation, greenhouse gas emission reductions, and the use of low-impact development . . .
- 6.2.A.11. Support the electrification of transportation facilities.

Proposals to Address Climate Change

- Goal 6.2.A.4. To establish an adaptation planning process to increase the county's long-term resilience to climate change while maintaining or modifying essential services.
- Policy 6.2.A.8. Evaluate transportation system vulnerabilities to climate change and define adaptive strategies to reduce damage and maintenance.
- Policy 6.5.A.9. Ensure that County road standards are updated to reflect climate change projections and that new roads are sited appropriately and protected from sea level rise . . . “

Public Comment for an Additional Financial Policy

- 6.2.B.8 A portion of the _____ be used to fund clean transportation initiatives that help reduce greenhouse gas emissions.

Level of Service Appendix Analysis

- 6.5. Goal 8. To establish LOS standards for the road system to gauge the performance of the system and determine areas where transportation improvements are required.
- 6.5.C.2 Adopt LOS D as adequate for County Collector roads.
- 6.5.C.3 Adopt UGA intersection LOS _____ as adequate for Eastsound and Lopez Village key collector road intersections.



Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)
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E	>35 - 50
F	>50

Summary

- Eliminates redundancy.
- Updated based on current and future facility demand, capacity, and level of service.
- Incorporates current planning documents.
- Addresses public comments received to date.

Questions on the Changes to
the Transportation Element?

Questions on the Changes to the Transportation Element?

Next Steps

Planning Commission Briefing on March 20th

<https://www.sanjuanco.com/773/Council-Hearing-Room-Live-Stream>

Public Comments on the Draft Transportation Element and Appendix must be sent to:

compplancomments@sanjuanco.com