

APPENDIX E
CHAPTER 4 LUMMI INDIAN TRAFFIC
SAFETY STUDY (AMENDED)

Chapter 4

Lummi Island Ferry

Task Description

Whatcom County operates a small vehicle and passenger ferry that provides scheduled service between Gooseberry Point on the Lummi Nation and Lummi Island. The County has identified a need at some point to replace the aging “Whatcom Chief”, and major modification of the existing slip may be necessary for the new vessel. The current landing does not have sufficient accommodations for ferry traffic holding areas and ferry-bound vehicles often interfere with the Lummi Fisherman’s Cove facilities adjacent to the ferry landing.

The major work elements involved in this task are:

- Conduct an origin-destination interview of weekday vehicles using the ferry in both directions for the entire operating day
- Conduct a limited origin-destination interview of weekend vehicles using the ferry in both directions between 8:00 AM and 6:00 PM
- Analyze the data obtained to determine travel desires
- Assist the County in traffic impact evaluation of a proposed relocation of the ferry landing

Origin-Destination Study

Objective

The Origin-Destination study was designed to obtain a general understanding of the mainland destinations or points of travel origin for the patrons of the ferry. Due to the limited time available to interview most travelers, the response options were limited to five broadly defined locations.

- **Bellingham** was used for trips with an origin or destination within the greater Bellingham area. This also included areas to the east, such as Sudden Valley.
- **Lummi Nation** was used to describe trips that were between Lummi Island and the study area.
- **Refineries** described the industrial area north and west of the study area, generally known as Cherry Point.



- **Ferndale** was used to describe the greater Ferndale area and the general North Whatcom County area that would typically find travel to the north, through Ferndale, before using or crossing the freeway.
- **Other** was used to generally describe trip ends that were outside Whatcom County, thus very likely to be using the I-5 corridor for travel.

Study Process

RH2 employees were located on both the Gooseberry Point and the Lummi Island ferry landings. They attempted to quickly interview every vehicle, and most pedestrians and cyclists, as the patrons queued for the ferry trip. Most of the patrons, estimated at 95%, cooperated with the interviewers, although there were a few who chose to not respond or were last minute boarders who drove directly on the ferry.

A separate log sheet was used for each ferry trip to allow for a more detailed evaluation if desired in the future. A copy of the log sheets are included in **Appendix D**.

The patrons on the Lummi Island approach were asked what their next destination was. Their response was logged to the appropriate destination. In addition, those interviewed were asked how frequently they made the particular trip during the summer and winter seasons. The frequency information was provided to Whatcom County for use by the IBI Group who is working on other aspects of ferry use for the County.

Weekday Study

The weekday study was performed on Thursday, August 8, 2005. The study period was the entire operating day for the ferry. The trip pattern for the ferry was as expected for a weekday. The morning hours are predominantly towards the mainland, midday and afternoon are nearly balanced, and the evening travel is primarily toward the island. Figure 4-1 represents the travel direction by time of day.

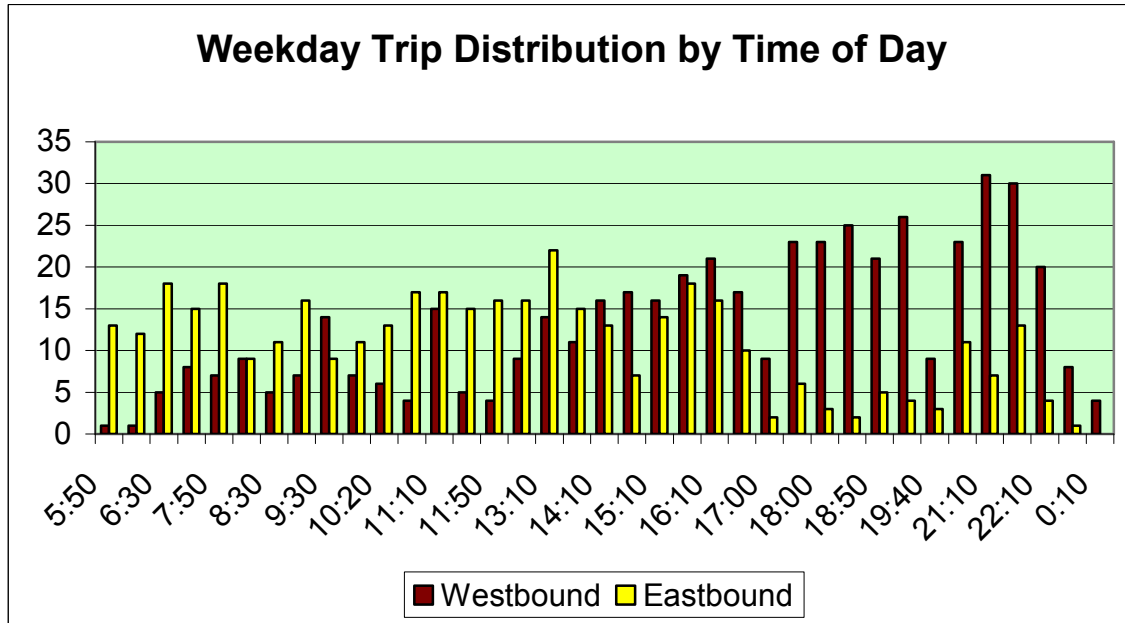


Figure 4-1, Weekday Trip Distribution

A total of 892 ferry patrons responded to the study. The tabular summary of their response is contained in **Table 4-1**. The data summary is in Appendix D.

Table 4-1 Weekday Destination Survey Results

<i>Weekday</i>	<i>Bellingham</i>	<i>Lummi Nation</i>	<i>Refineries</i>	<i>Ferndale</i>	<i>Other</i>	<i>Total</i>
Westbound	305	21	2	31	131	490
Eastbound	269	18	0	34	81	402
Chart Color						

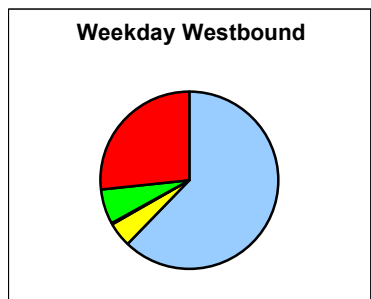


Figure 4-2

As could be expected for weekday travel, the overall relationship between eastbound and westbound travel is nearly balanced. This indicates a commuter type of trip.

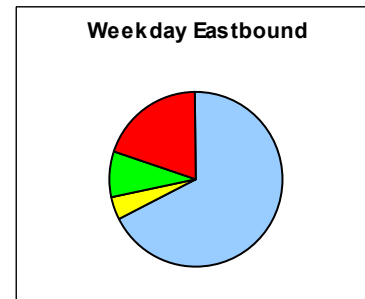


Figure 4-3

Figures 4-2 and **4-3** illustrate the similarities between westbound origins and eastbound destinations. The low to non-existent trips to the Cherry Point area reflect the incompatibility between the shift schedules and response time requirements of the major employers and the ferry operating schedule.

Weekend

The weekday study was performed on Saturday, August 27, 2005. The study period was the 8:00 AM to 6:00 PM. The morning hours are closely balanced, and the afternoon and evening travel is primarily toward the island. This study, taken near the end of the summer

season, is more representative of the summer travel characteristics. Lummi Island is the site of many festivals and special events during the summer. These activities would tend to increase travel toward the island during the day, with an evening return to the mainland. A more balanced travel pattern, such as illustrated for the mid-morning time period is likely to prevail during non-tourist times of the year. **Figure 4-4** represents the travel direction by time of day.

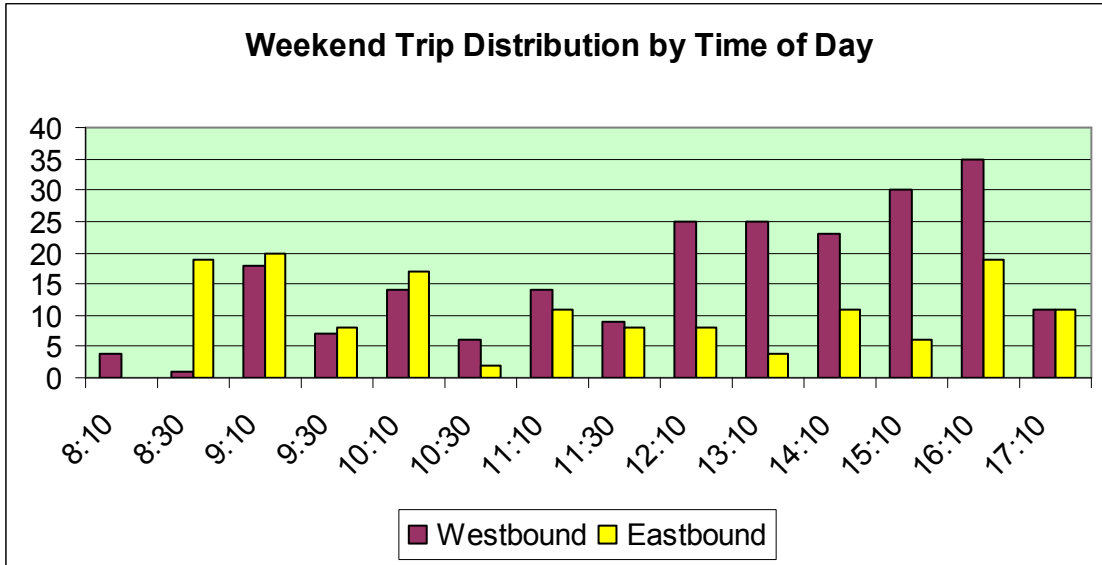


Figure 4-4, Weekend Trip Distribution

A total of 320 ferry patrons responded to the study. The tabular summary of their response is contained in **Table 4-2**. The data summary is in **Appendix D**.

Weekend	Bellingham	Lummi Nation	Refineries	Ferndale	Other	Total
Westbound	69	8	0	10	89	176
Eastbound	64	5	0	11	64	144
Chart Color						

Table 4-2, Weekend Destination Survey Results

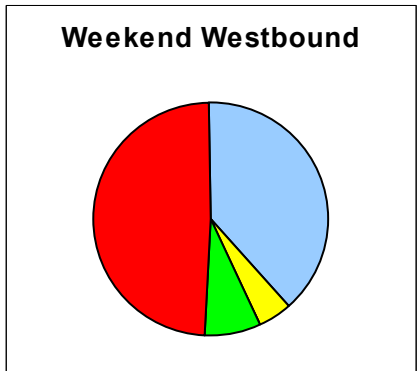


Figure 4-4

The overall relationship between eastbound and westbound travel is still Bellingham oriented, but a higher percentage of the travel is from outside Whatcom County. This indicates a recreational destination type of trip. Figures 4-4 and 4-5 illustrate the relationship between westbound origins and eastbound destinations

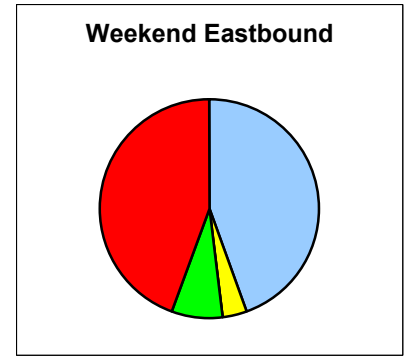


Figure 4-5

Conclusions



The objective of this study was to document the travel desires of the patrons using the Lummi Island Ferry. The data very strongly suggests that the greater Bellingham area is the predominant trip end. This reflects the current

standing of Bellingham as the primary employment, retail, and service center for the region. As indicated by the current traffic flow patterns, most of this traffic uses the Haxton Way and Slater Road route to access I-5 and Bellingham. Observation of northbound traffic flow on Haxton Way accurately identifies ferry landings with streams of vehicles. There is some travel that uses Marine Drive, but roadway geometrics do not make this route attractive or time effective for most commuters.

Roadway improvements that accommodate the Bellingham destination should be included as part of the overall improvement program.

Ferry Landing Relocation

Whatcom County Public Works recently completed the Gooseberry Point Ferry Dock Relocation Feasibility Study. This study identified a number of potential alternative dock locations and assessed each of them according to the following criteria:

- Consistency with the Lummi Nation's vision
- Consistency with the Whatcom County vision
- Safety of Ferry Service
- Reliability of Ferry Service
- Foster the development of a multi-modal transportation center
- Avoid or mitigate impacts from ferry-related traffic on the Lummi Reservation
- Avoid or mitigate significant environmental impacts
- Avoid or mitigate impacts to treat reserved usual and accustomed fishing, hunting, and harvesting areas
- Avoid significant impacts on archaeological and historic resources in the project area
- Geotechnical feasibility
- Permit-related risks
- Capital costs
- Real estate costs
- Operations and maintenance costs

A total of 14 sites were initially examined and five of those sites were identified for further analysis. Those five sites were:

1. The existing dock
2. A new dock west of the existing dock
3. Hilton Harbor
4. Whatcom Waterway (two sites – East and West)
5. Mt. Baker Plywood

None of the alternative sites were found to have fatal flaws; that is, a new ferry dock could be built at any of these sites provided the necessary permits can be obtained and adverse impacts avoided or satisfactorily mitigated. Note that the site west of the existing dock is likely limited by the presence of known Tribal cultural resource sites which may, as a practical matter, preclude this site from further consideration.

The report identified planning level cost estimates for docks at the various locations. Costs ranged from a low of \$36,000,000 for a 20 year period to a high of \$137 million for the same 20 year period.

At the present time, Whatcom County has not identified a funding source that would enable them to proceed with the additional work necessary to further assess any of the potential alternative ferry dock sites. With that in mind, the focus of this Traffic Safety Study update should shift to a determination of how the County and the Lummi Nation can work together to identify and minimize the ferry traffic-related disruptions of traffic on the Lummi Reservation and to minimize the incidents of vehicle and pedestrian accidents and injuries on the Reservation as they relate to ferry traffic.

Chapter 3 of the *Traffic Safety Study* addressed accidents on the Lummi Reservation. The data shows that, the ferry traffic accounts for a significant amount of traffic and congestion on the roads and in the ferry waiting area. In reviewing the crash data, it is clear that several of the accidents occurred late at night or in the early morning after the boat had stopped its operations for the day. Therefore, it is difficult to determine which safety improvements will be most effective without a more detailed study. A reservation wide safety audit on all major through fares would provide clear guidance on this issue.

The recommendations in Chapter 3 are as follows:

- Evaluate the installation of a protected left turn phase at the Haxton Way/Slater Road signal.
- Partner with Lummi Nation to enhance the pedestrian education program with emphasis on wearing light colored clothing or reflective ar or leg bands to increase nighttime visibility.
- Partner with Lummi Nation to develop agreements and funding programs that will provide pedestrian facilities where appropriate.
- Consider moving the Haxton Way speed change from 50 to 35 MPH to a location north of the Smokehouse Road intersection to reduce speed at the intersection.

- Continue and enhance the law enforcement “impaired driver” zero tolerance program. This could include roaming field sobriety stations using officer teams from Whatcom County Sheriff and Lummi Police.
- Develop a comprehensive joint agency program to reduce speed on the roads.
- Perform a FHWA compliant Safety Audit of Haxton Way with special emphasis throughout the Gooseberry Point area.
- Provide sidewalks in and around the Ferry Terminal to facilitate pedestrian and Transit access.
- Convert the Kwina Rd. Haxton Way intersection and the Smokehouse Rd. Haxton Way intersection to roundabouts to reduce speed on Haxton Way and improve pedestrian safety.
- Study the use of off-site queuing of ferry traffic.

The focus would appear to be most appropriately placed on efforts to reduce traffic speed, especially on Haxton Way, as it is a major route from Slater Road to the ferry. Additional benefits may be gained by efforts to reduce traffic congestion during peak periods and by identifying steps to minimize the congestion and disruption caused by traffic waiting in the vicinity of the terminal.
