CUSTOMER AND BUSINESS SURVEY RESULTS: RELIANCE ON MEMORIAL BRIDGE TO ACCESS BUSINESSES PROXIMATE TO BRIDGE IN PORTSMOUTH AND KITTERY

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MAINE – NEW HAMPSHIRE CONNECTIONS STUDY

1. Introduction

The New Hampshire and Maine Departments of Transportation are jointly studying the future of the Memorial (U.S. Route 1) Bridge and Sarah Long (U. S. Route 1 Bypass) Bridge across the Piscataqua River between the two states. One of the alternatives involves closing the Memorial Bridge to vehicular traffic. As such, the Study Team has been requested by MaineDOT and NHDOT to understand better the economic importance of the bridge to businesses in nearby zones in Portsmouth and Kittery.

2. Executive Summary

This study tried to measure possible economic impact on businesses through a survey of more than 1,500 customers as they were exiting 15 selected retail and service businesses in Kittery and Portsmouth and a mail-out survey of 290 businesses of all kinds in the two communities, of which 96 returned completed surveys.

The surveys led to estimates of the percentage of customers that rely on the Memorial Bridge to reach different types of businesses either side of the bridge, the customers' modes of travel, the likelihood that customers would find alternative routes to businesses if the Memorial Bridge were closed to vehicular traffic, and an estimate of impact on shares of sales.

Based on the surveys' results, it is reasonable to estimate that sales would ultimately stabilize at 8% - 17% below a pre-bridge closing, depending on location, for businesses that rely on customer traffic. Individual businesses will be affected differently: businesses that are convenience-oriented, that rely primarily on pass-by traffic, and that are immediately en route to the bridge may be harder hit (more than 17% impact); businesses that are destination-oriented, that rely primarily on traffic coming to the business for a specific reason, and that draw from a trade area that is not as bridge-dependent may be hit less hard. But, overall, an 8% - 17% impact is a reasonable conclusion based on the available information.

3. Method

Two independent surveys were conducted during March 2010: an exit survey of customers and a survey of business owners.

3.1 Exit Survey: This survey questioned customers as they were leaving a sample of businesses in order to get a snapshot of business trade areas and the extent to which customers are originating from or headed to the opposite side of the Piscataqua River via Memorial Bridge. Interviewers were stationed for selected 2-to-3-hour periods in a total of 15 businesses from Thursday, March 18, through Saturday, March 20. During these periods they randomly intercepted customers as they were leaving the business and administered a brief questionnaire. A cross-section of businesses with customer traffic was selected with the assistance of local chambers of commerce and Stakeholder Committee members. These included convenience and destination retailers, restaurants, and personal service businesses.

Seven of the businesses were located in Downtown Portsmouth (Zone 1 on the Map 1 at the end of this report). Eight of the businesses were located in Kittery in Zones 9, 10, and 11 on the attached map, including six centered on or near U.S. Route 1 in the pathway of Memorial Bridge and two located on the Route 1 Bypass in the pathway of Sarah Long Bridge.

Six percent of the interviews were conducted between 7 and 9 a.m. over the three days; 25% between 9 a.m. and 1 p.m.; 53% between 1 and 6 p.m.; and 6% between 6 and 8 p.m.

The survey intercepted and completed interviews with 1,505 customers. While these are statistically representative only of the businesses in which the interviews were conducted, the number and distribution of interviews yield results that provide good insight to trade areas and the use of Memorial Bridge by customers of businesses with walk-in traffic.

3.2 Business Survey: This survey was a mail-out to 330 businesses of all types located in the pathways to and from the Memorial and Sarah Long bridges, within Zones 1-4 in Portsmouth and Zones 9-11 in Kittery, as shown on Map 1. The surveys were mailed with stamped, self-addressed return envelopes on March 11, with a deadline of March 25 to return them. Of the 330 mailings, 247 were in Portsmouth and 83 were in Kittery. Forty of the mailings were returned as undeliverable, reducing the sample to 290. Of these, a total of 96 returned completed questionnaires, a rate of 33%, which is well within the range of what is expected in a mail-out survey.

This survey sought information from the businesses about the places of origination of their customers, reliance of their customers on the three bridges between Kittery and Portsmouth, how a temporary closing of Memorial Bridge to vehicles in fall 2009 affected sales, share of customers who arrive at the business on foot or by bicycle, and their perceptions of the likelihood that customers would find alternative routes to their businesses if Memorial Bridge were closed to vehicles in the future.

Because returns from mail-out surveys are not random, the results are not susceptible to statistical tests of significance and cannot reliably be extrapolated to all businesses in the study area. However, they provide important impressions and, as long as appropriate caution is exercised, contribute to an understanding of likely impacts.

Note: The columns (or, occasionally, rows) in the tables in this report may not add to 100% due to rounding errors.

4. Results: Exit Survey

4.1 The Sample: A total of 1,505 interviews were completed, distributed as follows (see map at end of the report):

- By store location – 545 of the completed interviews, or 36%, were conducted in Downtown Portsmouth stores (Zone 1); 870, or 51%, were conducted in Kittery in the area centered on Route 1 near Memorial Bridge (Zones 9 and 11); and 190, or 13%, were conducted in Kittery in the area centered on Route 1 Bypass near Sarah Long Bridge (Zone 10). The number of interviews completed in Kittery was larger than in Portsmouth because of the large-volume nature of four of the businesses in Kittery (vs. one or two such businesses in Portsmouth downtown). See Table 1.

TABLE 1. Completed exit interviews by store location

	Total
N=	1505
Zone 1 Portsmouth	545 36%
Zone 9 Kittery	432 29%
Zone 10 Kittery	190 13%

Zone 11 Kittery	338 22%

- By type of store – About a quarter (24%) of the completed exit interviews were conducted in “convenience” retail stores – i.e., stores that sell everyday items that are purchased in frequent intervals, such as grocery stores, drug stores, hardware stores, and gas stations. A little more than a third (35%) were conducted in “destination” retail stores – i.e., stores that sell specialty items that may be purchased in less frequent intervals than convenience merchandise or items for which customers may do comparison shopping, such as specialty food, furniture, toy, flower, and clothing, and similar stores. Nearly a third (31%) were conducted in restaurants, both sit-down and take-out. And 10% were conducted in personal service businesses. See Table 2.

TABLE 2. Completed exit interviews by type of store	
	Total
N=	1504
Convenience retail	367 24%

Destination retail	522 35%
Restaurant	469 31%
Personal Service	146 10%

- By residence of customer – Similar shares of customers who were intercepted live in Portsmouth (23% of those interviewed) and Kittery (22%). Similar shares also live in other communities in New Hampshire (24%) and other communities in Maine (21%). About 11% live in places located outside of Maine and New Hampshire. See Table 3.

TABLE 3. Completed exit interviews **by customers' place of residence**	
	Total
N=	1488
Portsmouth	335 23%

Kittery	326 22%
Elsewhere in Maine	311 21%
Elsewhere in New Hampshire	351 24%
Elsewhere besides Maine or New Hampshire	165 11%

As would be expected, the distribution of customers by place of residence varied by location of the businesses. Of customers interviewed in Downtown Portsmouth, 37% live in Portsmouth and 31% live elsewhere in New Hampshire, largely from the Portsmouth and Rochester metro areas. About a fifth lives in Maine, including 10% in Kittery and 9% elsewhere in Maine.

Kittery businesses in the Route 1 corridor immediately across the Memorial Bridge are twice as dependent on Portsmouth and New Hampshire-based customers as *vice versa*. About 44% of customers exiting Zone 9 businesses, closest to the bridge, are from Kittery or elsewhere in Maine, but nearly as many (40%) are from Portsmouth or elsewhere in New Hampshire. In Zone 11, the share of customers living in Portsmouth and elsewhere in New Hampshire is also fairly high at 33% versus 65% living in Maine. In Zone 10, which is more closely associated with the Sarah Long Bridge, the share of customers who live in New Hampshire drops to 20% versus 71% living in Maine. See Table 4.

TABLE 4. Residence of Customers by Location of Business

	Total	Location of business			
		Zone 1 Portsmouth	Zone 9 Kittery	Zone 10 Kittery	Zone 11 Kittery
N=	1488	541	429	184	334
Portsmouth	335 23%	200 37%	72 17%	11 6%	52 16%
Kittery	326 22%	55 10%	87 20%	58 32%	126 38%
Elsewhere in Maine	311 21%	48 9%	102 24%	72 39%	89 27%

Elsewhere in New Hampshire	351 24%	169 31%	99 23%	25 14%	58 17%
Elsewhere besides Maine or NH	165 11%	69 13%	69 16%	18 10%	9 3%
Total	100%	100%	100%	100%	100%

4.2 Using Memorial Bridge Immediately <u>Before</u> Arriving at Business: The exit survey asked if the customer had crossed Memorial Bridge immediately before arriving at the business. Thirty percent said they had, while 70% said they had not. See Table 5.

TABLE 5. Crossed MB Immediately Before Arriving at Business	
	Total
N=	1504
Yes	449 30%
No	1055

	70%

- By Store Location – Customers visiting businesses located in Zones 9 and 11 in Kittery (in the pathway of Memorial Bridge) were much more likely to have crossed Memorial Bridge immediately before arriving at the businesses – 38% and 39%, respectively -- than customers visiting businesses in Downtown Portsmouth (Zone 1) or in Zone 10 in Kittery – 23% and 15%, respectively. See Table 6.

TABLE 6. Crossed MB Immediately Before Arriving at Business

By Location of Business

	Total	Location of business			
		Zone 1 Portsmouth	Zone 9 Kittery	Zone 10 Kittery	Zone 11 Kittery
N=	1504	545	431	190	338
Yes	449 30%	127 23%	162 38%	28 15%	132 39%
No	1055 70%	418 77%	269 62%	162 85%	206 61%

- By Type of Store – Customers en route to convenience retail stores were only half as likely to have crossed the Memorial Bridge immediately before arriving compared with destination retail stores, restaurants, or personal service businesses (such as barber shops and dry cleaners). Seventeen percent said they did so, compared with between 32% and 40% for the other categories of businesses. See Table 7.

TABLE 7. Crossed MB Immediately Before Arriving at Business By Type of Business

	Total	Type of business			
		Convenience retail	Destination retail	Restaurant	Personal Service
N=	1504	367	522	468	146
Yes	449 30%	63 17%	178 34%	149 32%	58 40%
No	1055 70%	304 83%	344 66%	319 68%	88 60%

4.3 Using Memorial Bridge Immediately <u>After</u> Leaving Business: The exit survey asked if the customer would be crossing Memorial Bridge immediately after leaving the business. Thirty-seven percent said they planned to do so, while 63% said they did not. See Table 8.

TABLE 8. Planning to Cross MB Immediately After Leaving Business

	Total
N=	1504

Yes	557 37%
No	947 63%

· By Store Location – As with crossing the Memorial Bridge immediately before arriving at the businesses, the likelihood of crossing the bridge immediately after leaving the businesses was much higher for customers of businesses in Zones 9 and 11 in Kittery than for customers of businesses in Zone 1 (Downtown Portsmouth) or Zone 10 in Kittery. However, in each zone, customers were somewhat more likely to plan to cross the bridge upon departure from the businesses than immediately before arriving at the businesses. This suggests some measure of linking of trips, such as stopping for breakfast before heading to work across the bridge, or stopping for an errand on the way home from work and then crossing the bridge. See Table 9.

TABLE 9. Planning to Cross MB Immediately After Leaving Business

By Location of Business

	Total	Location of business			
		Zone 1 Portsmouth	Zone 9 Kittery	Zone 10 Kittery	Zone 11 Kittery
Base	1504	545	432	189	338
Yes	557	157	210	45	145

	37%	29%	49%	24%	43%
No	947 63%	388 71%	222 51%	144 76%	193 57%

- By Type of Store – Customers of destination retail stores and restaurants were somewhat more likely to be planning to cross the Memorial Bridge immediately after leaving the businesses than were customers of convenience retail stores. Customers of personal service businesses (such as barber shops and dry cleaners) were the most likely to plan to cross the bridge upon departure of the businesses. See Table 10.

TABLE 10. Planning to Cross MB Immediately After Leaving Business

By Type of Business

	Total	Type of business			
		Convenience retail	Destination retail	Restaurant	Personal Service
N=	1504	366	522	469	146
Yes	557 37%	91 25%	198 38%	185 39%	83 57%

No	947 63%	275 75%	324 62%	284 61%	63 43%

4.4 Crossing Memorial Bridge Immediately Before Arriving at Business <u>and</u> Planning To Do So Immediately Upon Leaving the Business: Of the customers who had crossed the Memorial Bridge immediately before arriving at the businesses (30% of the total sample), 73% also planned to cross the bridge immediately upon leaving the businesses, while 27% did not plan to do so. Conversely, of the customers who had not crossed the Memorial Bridge immediately before arriving at the businesses (70% of the total sample), 22% planned to do so immediately upon leaving. As previously noted, this suggests at least a moderate level of trip linking on one side of the bridge before crossing to the other side. See Table 11.

TABLE 11. Crossing MB Immediately Before Arriving at Business By Planning to Cross MB Immedately After Leaving		
Do you plan to cross the MB immediately upon leaving business?	Did you cross the MB immediately before coming to this business?	
	Yes	No
N=	449	1054
Yes	326 73%	231 22%

No	123 27%	823 78%

4.5 Mode of Travel: Nine of 10 of the customers intercepted had driven to the business, while 9% had walked and 1% had come by bicycle. Because the survey was conducted in late March, the walk-bicycle share very likely is lower than what might be recorded in summer months. On the other hand, the weather was unusually mild, so the share probably is higher than what may have been recorded during colder or snowy weather. See Table 12.

TABLE 12. Mode of Travel

	Total
N=	1505
Drive	1352 90%
Walk	131 9%
Bike	22 1%

- Mode of Travel Crossing Memorial Bridge Immediately Before Arriving at Business – Those who crossed Memorial Bridge immediately en route to a business were less likely to walk (6%) than those who did not cross the bridge (10%). See Table 13. Virtually all (88%) of those walking across the bridge en route to a business had walked to a business in Downtown Portsmouth (Zone 1) rather than in the opposite direction. This amounts to about 18% of all customers who had crossed Memorial Bridge en route to a Downtown Portsmouth business. For that matter, virtually all walkers were destined for a Downtown Portsmouth business, whether crossing the bridge or not; few customers reached the Kittery businesses by walking. Note that the bicycling numbers were overall very small; the numbers may well increase during warmer weather.

  See Tables 13 and 14.

TABLE 13. Mode of Travel Crossing MB

Immediately Before Arriving at Business

	Did you cross the MB immediately before coming to this business?	
	Yes	No
N=	449	1055
Drive	415 92%	936 89%
Walk	26 6%	105 10%

Bike	8 2%	14 1%
Other	0 0%	0 0%

TABLE 14. Mode of Travel Crossing MB Immediately Before Arriving at Business by Location of Business

Location of business	Did you cross MB immediately before arriving at business?					
	Yes			No		
	Drive	Walk	Bike	Drive	Walk	Bike
N=	415	26	8	936	105	14
Zone 1 Portsmouth	101 24%	23 88%	3 38%	312 33%	95 90%	11 79%
Zone 9 Kittery	160 39%	0 0%	2 25%	263 28%	6 6%	0 0%

Zone 10 Kittery	26 6%	1 4%	1 13%	160 17%	1 1%	1 7%
Zone 11 Kittery	128 31%	2 8%	2 25%	201 21%	3 3%	2 14%

4.6 Summary of Key Findings from Exit Survey Results:

- About a third of customers of businesses surveyed crossed the bridge either immediately en route to or immediately upon departure from the surveyed businesses.

- This share increased to around 40% for businesses on the Kittery side of the Memorial Bridge (but is only half this number for businesses on the Kittery side of the Sarah Long Bridge). This is consistent with the origin of customers visiting businesses in Zones 9 and 11 in Kittery, including a third to 40% who live in Portsmouth or elsewhere in New Hampshire.

- Downtown Portsmouth is less dependent on Memorial Bridge crossings, with about a quarter of customers interviewed in downtown businesses indicating they either had crossed the bridge immediately en route or planned to do so immediately upon leaving. And a notable share of these arrived by walking. By contrast, virtually all customers who crossed the Memorial Bridge en route to or leaving a business in Kittery did so by vehicle.

- Comparing the percentage of customers who said they had crossed Memorial Bridge immediately before arriving at the business with the modestly higher percentage who said they planned to cross the bridge immediately after leaving the business suggests at least a moderate amount of trip linking.

5. Results: Business Survey

A total of 96 businesses returned completed questionnaires. Key characteristics of these businesses include:

5.1 Type of Business: The sample was dominated by retail stores and service businesses, which together accounted for 82% of the returns. Retail stores included convenience and specialty retailers; and service businesses included personal, professional, business, and financial services. Another 9% were restaurants (sit-down, take-out, and combinations), and 9% were other types of businesses, including distributors, contractors, and manufacturers. See Table 15. The last column in the table shows the distribution of businesses to which the survey was mailed. As can be seen, service and restaurant/lodging businesses were represented in the return in about the same proportions as were mailed. On the other hand, retail stores are somewhat over-represented in the returns (40% of the returns v. 26% of the mailings), and “other” businesses are somewhat under-represented. This is not surprising since retailers stand to gain or lose more customer traffic based on a decision about the bridges, and “other” businesses are likely to be less affected (though employee and freight movement certainly come into play for them).

TABLE 15. Type of Business

	Total Returns	Percent	Dist. of Original Mailing
N=	96		290
Retail	38	40%	26%
Service	40	42%	44%
Restaurant & lodging	9	9%	12%
Other	9	9%	18%

5.2 Location of Business: About 65% of the businesses returning surveys are located in Portsmouth, with most (59%) located in Downtown Portsmouth (Zone 1). About 35% are located in Kittery, including 31% located in Zones 9 and 11, which are on the pathway to and from the Memorial Bridge. See Table 16 and attached zone map.

TABLE 16. Locations of Business Respondents		
	Total	Percent
N=	94	
Zone 1 Portsmouth	55	59%
Zone 2 Portsmouth	2	2%
Zone 3 Portsmouth	0	0%
Zone 4 Portsmouth	3	3%
Elsewhere in Portsmouth	1	1%
Zone 9 Kittery	11	12%

Zone 10 Kittery	3	3%
Zone 11 Kittery	18	19%
Elsewhere in Kittery	1	1%

There was a fairly even split between retailers and service businesses in Downtown Portsmouth, plus several restaurants. Zones 9 and 11 in Kittery together also had a fairly good representation of retailers, service businesses and restaurants. Few businesses responded from the other zones. See Table 17.

TABLE 17. Location of Business

By Type of Business

	Type of Business			
	Retail	Services	Rest. & Lodging	Other
N=	38	39	9	8

Zone 1 Portsmouth	27 49%	21 38%	4 7%	3 5%
Zone 2 Portsmouth	0 0%	2 100%	0 0%	0 0%
Zone 3 Portsmouth	0 0%	0 0%	0 0%	0 0%
Zone 4 Portsmouth	1 33%	2 67%	0 0%	0 0%
Elsewhere in Portsmouth	0 0%	0 0%	0 0%	1 100%
Zone 9 Kittery	1 9%	6 55%	3 27%	1 9%
Zone 10 Kittery	1 33%	1 33%	0 0%	1 33%

Zone 11 Kittery	7 39%	7 39%	2 11%	2 11%
Elsewhere in Kittery	1 100%	0 0%	0 0%	0 0%

5.3 Years at Location: The median number of years in business among respondents was between 10 and 20 years. About 38% have been in business for 20 years or longer. See Table 18.

TABLE 18. Years in Business

	Total	Percent
N=	96	
Less than 2 years	3 3%	3%
2 to less than 5 years	11 11%	11%
5 to less than 10 years	23 24%	24%

10 to less than 20 years	23 24%	24%
20 years or longer	36 38%	38%

5.4 Average Number of Employees: The number of employees per business responding to the survey ranged from 1 to 125, with an average of 11 employees. By type of business, the average ranged from 6 among retail stores to 29 for restaurants and lodging establishments. See Table 19.

TABLE 19. Average Number of Employees

By Type of Business

	Total	Type of Business			
		Retail	Services	Restaur. & Lodging	Other
N=	94	37	39	9	9
Employees	11	6	10	29	11

5.5 Pass-by vs. Destination Business: About half of the responding businesses described themselves as primarily “a destination business to which customers come for a specific reason.” About a third described themselves as primarily “a business that depends on a location with pass-by traffic (vehicular or pedestrian).” The remainder said they do not rely on walk-in customers. See Table 20.

TABLE 20. Self-described as Pass-by v Destination Business	
	Total
N=	94
Primarily pass-by business	32 34%
Primarily destination business	45 48%
Does not rely on walk-in customers	17 18%

Business respondents in Downtown Portsmouth were somewhat more likely than the sample as a whole to describe themselves as businesses that relied primarily on pass-by business, while businesses in Zone 9 in Kittery, immediately north of the Memorial Bridge, were more likely than the sample as a whole to describe themselves as destination businesses. See Table 21.

TABLE 21. Self-description as Pass-by v. Destination Business By Location of Business

	Business self-described as:		
	Primarily pass-by business	Primarily destination business	Does not rely on walk-in customers
N=	32 34%	44 47%	17 18%
Zone 1 Portsmouth (Downtown)	25 45%	22 40%	8 15%
Other Portsmouth	1 17%	1 17%	4 67%
Zone 9 Kittery	1 9%	8 73%	2 18%
Zone 11 Kittery	5 29%	9 53%	3 17%
Other Kittery	0 0%	4 100%	0 0%

5.6 Origination of Customers: Among respondents as a whole, the businesses estimated that 46% of customers originated from the City of Portsmouth or elsewhere in New Hampshire. They estimated that about 38% originated from the Town of Kittery or elsewhere in Maine. About 16% were estimated to originate from elsewhere. See Table 22.

TABLE 22. Origination of Customers

	Total
N =	92
City of Portsmouth	25%
Elsewhere on the NH side of the Piscataqua River	21%
Town of Kittery	19%
Elsewhere on the Maine side of the Piscataqua River	19%
Elsewhere	16%

- Origination of Customers by Location of Business: Consistent with findings from the exit survey of customers, Kittery businesses perceive themselves as being more dependent on customers from the New Hampshire side of the Piscataqua River than *vice versa*. While 50% - 55% of Kittery business' customers come from Kittery or elsewhere on the Maine side of the river, about 40% come from the New Hampshire side. Similarly, about half of Portsmouth business' customers come from Portsmouth or elsewhere in New Hampshire, but only about 30% come from Kittery or elsewhere on the Maine side of the river. About a fifth comes from outside of Maine or New Hampshire, mostly southern New England. See Table 23.

TABLE 23. Origination of Customers at Respondents' Businesses

By Location of Business

	Location of Business				
	Zone 1 Portsmouth	Elsewhere Portsmouth	Zone 9 Kittery	Zone 11 Kittery	Elsewhere Kittery
N =	52	6	11	18	4
City of Portsmouth	29%	25%	17%	20%	21%
Elsewhere on the NH side of the Piscataqua River	20%	28%	22%	21%	20%
Town of Kittery	12%	18%	33%	31%	20%

Elsewhere on the Maine side of the Piscataqua River	17%	13%	20%	23%	31%
Elsewhere	22%	17%	6%	7%	8%

5.7 Pedestrian – Bicycle Shares: Two-thirds of business respondents reported that fewer than 5% of customers arrive by foot or bicycle. About a quarter (24%) estimated that 5%-20% of their customers did so. See Table 24.

TABLE 24. Est. Shares Arriving by Foot or Bicycle		
	Total	Percent

N =	91	
Less than 5%	60	66%
5% to less than 10%	18	20%
10% to less than 20%	4	4%
20% to less than 30%	7	8%
30% to less than 50%	1	1%
50% to less than 75%	1	1%
75% or more	0	0%

Consistent with findings in the exit survey of customers, businesses in Downtown Portsmouth estimate that much higher shares arrive by foot or bicycle than do businesses elsewhere. Nearly half of Portsmouth downtown businesses estimate that 5% or more of their customers arrive by foot or bicycle, including more than a fifth that estimate that 10% or more of their customers do so. See Table 25.

TABLE 25. Est. Ped / Bike Shares By Location of Business						
	Total	Location of Business				
		Zone 1 Portsmouth	Elsewhere Portsmouth	Zone 9 Kittery	Zone 11 Kittery	Elsewhere Kittery
N =	91	52	5	11	18	4
Less than 5%	60 66%	28 54%	5 100%	8 73%	15 83%	4 100%
5% to less than 10%	18 20%	13 25%	0 0%	2 18%	2 11%	0 0%
10% to less than 20%	4 4%	3 6%	0 0%	1 9%	0 0%	0 0%
20% to less than 30%	7 8%	6 12%	0 0%	0 0%	1 6%	0 0%

30% to less than 50%	1 1%	1 2%	0 0%	0 0%	0 0%	0 0%
50% to less than 75%	1 1%	1 2%	0 0%	0 0%	0 0%	0 0%
75% or more	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%

5.8 Reliance on Bridges: Business respondents as a whole estimate that 18% of their collective customers cross the Memorial Bridge immediately before arriving at their businesses. An estimated 13% cross the Piscataqua River Bridge and an estimated 9% cross the Sarah Long Bridge. See Table 26.

TABLE 26. Est. Av. Shares of All Customers Who Cross Specified Bridge Immediately **Before Arriving at Business**

	Total
N =	90
The Memorial (Route 1) Bridge	18%
The Sarah Long (Route 1A) Bridge	9%
The Piscataqua River (I-95) Bridge	13%

- Reliance on Bridges by Location of Business – Businesses in Zones 9 and 11 in Kittery report being more reliant on the Memorial Bridge for customer traffic than do businesses elsewhere. They estimate that 21% - 25% of their customers use the bridge immediately before arriving at their businesses versus 17% who do so before arriving at Downtown Portsmouth businesses. Businesses in Zones 9 and 11 also rely more heavily on customers crossing the Sarah Long Bridge than businesses in Portsmouth.

  Because sample sizes by location are small, these estimated percentages should be taken as indicators rather than as statistically reliable estimates. However, it is noteworthy that the estimated reliance on Memorial Bridge among Zone 9 and 11 businesses is much smaller than the percentages found in the earlier exit survey of customers. This is undoubtedly because those exit surveys were limited to businesses with significant walk-in customer traffic, whereas the business survey included other types of businesses as well – e.g., professional services where most business is transacted in other ways, contractor businesses where employees go to customers, etc.

TABLE 27. Est. Av. Shares of All Customers Who Cross Specified Bridge Immediately Before Arriving at Business by Location of Business					
	Location of Business				
	Zone 1 Portsmouth	Elsewhere Portsmouth	Zone 9 Kittery	Zone 11 Kittery	Elsewhere Kittery
Base	51	5	11	18	4
The Memorial (Route 1) Bridge	17%	1%	25%	21%	19%
The Sarah Long (Route 1A) Bridge	6%	1%	10%	16%	27%
The Piscataqua River (I-95) Bridge	12%	33%	9%	12%	14%

- Reliance on Bridges by Type of Business – There is not much difference among retail, service, and restaurant/lodging respondents in terms of their reliance on customers crossing Memorial Bridge immediately before arriving at their businesses. Each is in the range of 17% - 24%. Restaurants reported being somewhat more reliant than others on Sarah Long Bridge. See Table 28.

  Businesses do not appear to differ significantly in their reliance on bridge crossings based on whether they describe themselves as primarily dependent on pass-by traffic or primarily dependent on destination traffic. In both cases, respondents estimate that 19% - 23% of their customers use the Memorial Bridge immediately before arriving at their businesses. As expected, businesses that do not rely primarily on walk-in traffic do not depend much on bridge crossings (some of these respondents referred to employee rather than customer use of the bridges). See Table 29.

TABLE 28. Est. Av. Share of All Customers Who Use Bridges

Immediately Before Arriving

By Type of Business

	Type of Business			
	Retail	Services	Restaur & Lodging	Other
N =	35	38	9	8
The Memorial (Route 1) Bridge	21%	17%	24%	7%
The Sarah Long (Route 1A) Bridge	9%	7%	19%	7%

The Piscataqua River (I-95) Bridge	14%	12%	8%	11%

TABLE 29. Est. Av. Share of All Customers Who Use Bridges Immediately Before Arriving By Pass-by v Destination			
	Business in primarily:		
	Relies on pass-by traffic	Relies on destination traffic	Does not rely on walk-in customers
N =	30	43	16
The Memorial (Route 1) Bridge	23%	19%	7%
The Sarah Long (Route 1A) Bridge	8%	12%	3%
The Piscataqua River (I-95) Bridge	13%	12%	13%

5.9 Effect of Previous Memorial Bridge Closure: The Memorial Bridge was closed to vehicles for six weeks during October and November 2009. The survey asked businesses two questions about this period of time: first, their opinion as to the likelihood that their customers found another route to their businesses, and second, sales experience in October-November 2009 vs. the average experience for those months during the previous three years. Because fall 2009 was in the midst of a recession, we follow the responses to these questions with an analysis of taxable retail sales trends in the greater Kittery region.

- <u>Likelihood that Customers Found Another Route</u> – About 65% of respondents said it was somewhat likely (21%) or very likely (44%) that their customers found another route to their businesses. A quarter said it was somewhat unlikely (14%) or very unlikely (11%) that customers found another route, and 9% said they could not say. See Table 30.

TABLE 30. Likelihood that Customers Found Another Route During Fall 2009 Closure of Memorial Bridge

	Total	Percent
N =	90	
Very likely	40	44%
Somewhat likely	19	21%

Somewhat unlikely	13	14%
Very unlikely	10	11%
Cannot estimate	8	9%

A higher percentage of respondents from Kittery than from Portsmouth consider it unlikely that customers found an alternative route to their businesses. Combining respondents from Zones 9 and 11, 10 of the 27 businesses responding, or 38%, said it was somewhat or very unlikely. (Zone 9 businesses were more optimistic than Zone 11 businesses, but the sample size in each zone is very small.) Eleven of the 53 respondents from Downtown Portsmouth, or 21%, thought it was unlikely that customers found an alternative route. See Table 31.

TABLE 31. Likelihood that Customers Found

Another Route During Fall 2009 Closure of Memorial Bridge

By Location of Business

	Location of Business				
	Zone 1 Portsmouth	Elsewhere Portsmouth	Zone 9 Kittery	Zone 11 Kittery	Elsewhere in Kittery
N =	53	5	11	16	4

Very likely	22 42%	4 80%	6 55%	6 38%	2 50%
Somewhat likely	14 26%	0 0%	2 18%	2 13%	0 0%
Somewhat unlikely	8 15%	0 0%	2 18%	3 19%	0 0%
Very unlikely	3 6%	0 0%	1 9%	4 25%	2 50%
Cannot estimate	6 11%	1 20%	0 0%	1 6%	0 0%

- October-November 2009 Sales Experience – Nearly two-thirds of respondents (65%) reported that their October-November 2009 sales were lower than the average for this period over the previous three years. These include a quarter (26%) who said their sales were 20% lower or more. Only 5% said sales were higher. The median response is 10% to 14% lower. See Table 32.

TABLE 32. Oct-Nov 2009 Sales vs Average for Same Period from 2006-2008		
	Total	Percent
N =	86	
10% or higher	4	5%
1%-9% higher	0	0%

About the same	26	30%
1%-9% lower	10	12%
10%-14% lower	16	19%
15%-19% lower	8	9%
20%-24% lower	12	14%

25+% lower	10	12%

A higher percentage of respondents from Zones 9 and 11 reported high levels of decline than from Downtown Portsmouth. Of 26 respondents in Zones 9 and 11, ten or 38% said their sales dropped by 20% or more in October-November 2009 compared with the average for the same period during the previous three years. The median response was 15% - 19% lower. Of 49 respondents in Downtown Portsmouth, the share citing 20+% decline was 16%. The median response was 10% - 14% lower. See Table 33.

Respondents that described themselves as primarily depending on pass-by traffic were more likely to report greater declines in sales than those that described themselves as primarily destination businesses, while businesses that said they do not depend on walk-in customers reported the mildest declines. However, the median response among each of these groups of businesses was 10% - 14% lower.

See Tables 33 and 34. We caution that as we break down a modest sample of respondents into smaller groups, and that because the sample was self-selected (by the decision to return or not return a completed questionnaire), the data should be considered as indicators rather than as statistically significant.

TABLE 33. Oct-Nov 2009 Sales

vs Average for Same Period from 2006-2008

by Location of Business

	Location of Business				
	Zone 1 Portsmouth	Elsewhere Portsmouth	Zone 9 Kittery	Zone 11 Kittery	Elsewhere in Kittery

N =	49	6	10	16	4
10% or higher	3 6%	1 17%	0 0%	0 0%	0 0%
1%-9% higher	0 0%	0 0%	0 0%	0 0%	0 0%
About the same	13 27%	3 50%	3 30%	5 31%	2 50%
1%-9% lower	9 18%	0 0%	0 0%	1 6%	0 0%
10%-14% lower	12 24%	0 0%	2 20%	2 13%	0 0%

15%-19% lower	4 8%	0 0%	1 10%	2 13%	0 0%
20%-24% lower	6 12%	1 17%	4 40%	1 6%	0 0%
25+% lower	2 4%	1 17%	0 0%	5 31%	2 50%

TABLE 34. Oct-Nov 2009 Sales

vs Average for Same Period from 2006-2008

by Pass-by v Destination

	Business self-described as:		
	Primarily pass-by business	Primarily destination business	Does not rely on walk-in customers
Base	32	38	15

10% or higher	1 3%	1 3%	2 13%
1%-9% higher	0 0%	0 0%	0 0%
About the same	4 13%	15 39%	7 47%
1%-9% lower	6 19%	3 8%	1 7%
10%-14% lower	8 25%	6 16%	1 7%
15%-19% lower	3	4	1

	9%	11%	7%
20%-24% lower	5 16%	4 11%	3 20%
25+% lower	5 16%	5 13%	0 0%

As mentioned, October and November 2009 were part of a nationwide recession affecting sales in many sectors. Without much more detailed data, it is not possible to separate declines that may be attributable to the recession versus the 6-week bridge closure. However, because Maine has a statewide sales tax and certain categories of taxable retail sales are reported at the municipal and regional levels, it is possible to get a sense of what the background level of decline was during that period of time. These data of course relate only to goods and services that are taxable: certain goods (such as many groceries and pharmaceuticals) and most services are not subject to sales taxes.

For this analysis we look at “personal consumption,” which are all of the categories of taxable retail sales other than sales for the purposes of “business operations,” which typically are business-to-business transactions; and we have reported the trend with and without the category of automobile transportation, since we are unaware of auto dealerships within the survey area (but auto repair shops and gasoline stations are present).

The trend was examined for an “Economic Summary Area” that includes York, Wells, Kittery, Eliot, Ogunquit, and South Berwick, as well as for the State of Maine. Overall, it appears reasonable to estimate that the background change in sales (for businesses engaged in taxable retail sales) was about -6%. This could be higher or lower depending on the actual mix of contractor and similar businesses in the area that were especially hard hit during the recession.

TABLE 35. Taxable Retail Sales for Personal Consumption

With and Without Auto Transportation

Oct-Nov of 2006 – 2009

Kittery-Wells-York Economic Summary Area and State of Maine

(millions of $)

	With Auto Transp.		W/out Auto Transp.	
	Kittery – Wells – York ESA	State of Maine	Kittery – Wells – York ESA	State of Maine
Oct-Nov 2006	$85.6	$2,358.2	$81.4	$1,795.3
Oct-Nov 2007	88.7	2,454.6	84.5	1,872.9
Oct-Nov 2008	85.6	2,237,4	82.4	1,779.0
Av Oct-Nov 2006-08	86.6	2,350.1	82.8	1,815.7
Oct-Nov 2009	80.7	2,2208.8	77.5	1,740.8
Change: Av 2006-08 to 2009	-6.9%	-5.5%	-6.4%	-4.1%

Source: Maine Revenue Services and Maine State Planning Office

Conclusions

The Exit Survey of more than 1,500 customers patronizing a cross-section of 15 businesses in Portsmouth and Kittery provides an indication of the percentage of customers that would be “at risk” for these types of businesses (retailers, restaurants, and personal service establishments) if the Memorial Bridge were closed to vehicles. By “at risk” we mean that these customers would need to find an alternative route to the businesses. Considering the shares of customers who said they had crossed the bridge immediately before arriving at the business (see Table 6), and considering the modes of transportation (auto, walking, bicycle) (see Table 14), a gross estimate of such “at risk” customers is:

Portsmouth Downtown (Zone 1):	15% - 20%
Kittery Zones 9 and 11:	35% - 40%
Kittery Zone 10:	10% - 15%

Not all of these customers will be lost, because some will find acceptable alternative routes. Based on responses in the Business Survey (*e.g.*, see Tables 30 and 31), it is not unreasonable to assume that approximately half of the customers would find alternative routes. This would imply an impact on these types of walk-in businesses (retailers, restaurants, and personal service establishments) of:

Portsmouth Downtown (Zone 1):	7% - 10%
Kittery Zones 9 and 11:	17% - 20%
Kittery Zone 10:	5% - 8%

The overall impact to all businesses in the surveyed area would be somewhat less than this because some businesses in the area do not rely on walk-in traffic and would be less affected by a closure to vehicles (though some respondents in the business survey noted that their employees, if not their customers, would be affected).

Another benchmark from the business survey was the comparison of Oct-Nov 2009 sales versus the average of Oct-Nov sales for the three previous years (tables 32-34). The median response was 10% - 14% decline. Considering a possible background change due to recession of a 6% decline, this suggests a median decline in the 4% - 8% range due to the 6-week closure of the bridge to vehicles. The background changes may have been more severe for recession-sensitive businesses included in the survey, such as building contractors; and for businesses that rely on pass-by traffic immediately en route to or from the Memorial Bridge.

These different ways of examining the possible overall impact on customers and sales of closing the Memorial Bridge to vehicles reach fairly consistent results within a range of 8% - 17% depending on location – *for businesses that rely on customer traffic*. These are, of course, synthesized results for the area as a whole. Individual businesses will be affected differently: businesses that are convenience-oriented, that rely primarily on pass-by traffic, and that are immediately en route to the Memorial Bridge may be harder hit (i.e., up to or more than a 17% impact); businesses that are destination-oriented, that rely primarily on traffic coming to the business for a specific reason, and that draw from an area that is not as dependent on the Memorial Bridge may be hit less hard (i.e., 8% or less). But an 8% - 17% impact on customers/sales for businesses with customer traffic in the area studied is a reasonable conclusion based on the available information.[1]

Post-Script: Regional Effect

The question arises as to whether this impact is localized or region-wide. The “region” for purpose of this study is the Primary Market Area for Zones 1, 9, 10, 11, as indicated by the Exit Survey. A shopping area’s Primary Market Area typically accounts for 60% - 70% of the area’s sales. In this case, it comprises the 16 municipalities that account for approximately two-thirds of the traffic captured in the Exit Survey. These extend from York, ME, in the north to Hampton Falls, NH, in the south, and west to Dover, NH, and So. Berwick, ME. They are partly within the Portsmouth, NH-ME Metro area, partly within the Rochester-Dover, NH-ME Metro area, and partly just outside of these two metro areas. See Table 36.

If a decision were made that led to an average loss of 8% - 17% of sales or customers for businesses that rely on customer traffic in a particular part of the region, will this reverberate to a region-wide loss of this economic activity? In our judgment this is unlikely.

It would lead to a region-wide loss only if (1) it caused regional and visitor demand for the affected goods and services to decline, or (2) there were not substitute locations or businesses within the region to take up the slack. As to the first possibility, there is no evidence that overall regional and visitor demand for the affected goods and services would decline.

As to the second possibility, there are a number of commercial centers in Portsmouth and Kittery that are and/or could be alternative locations unconstrained by the status of Memorial Bridge for the types of affected businesses in the impacted area. See Map 2, which was prepared as part of the Maine-New Hampshire Connections Study with the assistance of planners from Portsmouth and Kittery. There undoubtedly are competing areas elsewhere within the region as well.

Economist Charles Colgan of the University of Southern Maine estimates that there are more than 1,200 businesses in the retail, restaurant, and personal services categories within a 15-minute radius of the Memorial Bridge, in these and other commercial activity centers. See Table 37.

TABLE 36

PRIMARY MARKET AREA/REGION OF INFLUENCE, ZONES 1, 9, 10, 11

ME-NH CONNECTIONS STUDY (AND RELATION TO NECTA AND COUNTY DEFINITIONS)

Municipality	Primary Market Area Zone 1, DT Portsmouth	Primary Market Area Zones 9, 10, 11, Kittery	Portsmouth, NH-ME Metro NECTA	Rochester-Dover, NH-ME Metro NECTA	Rockingham County, NH	Strafford County, NH	York County, ME
NEW							

HAMPSHIRE							
Dover	X	X		X		X	
Greenland	X	X	X		X		
Hampton	X		X		X		
Hampton Falls	X				X		
Madbury	X			X		X	
New Castle	X	X	X		X		
Newington	X			X	X		
No. Hampton	X		X		X		
Portsmouth	X	X	X		X		
Rye	X	X	X		X		
Stratham	X		X		X		
MAINE							
Eliot	X	X	X				X
Kittery	X	X	X				X
No. Berwick		X					X
So. Berwick		X		X			X
York	X	X					X
These 16 municipalities overall account for about two-thirds of the customer traffic in the Exit Survey. The municipalities that make up the Zone 1 Primary Market Area centered on Portsmouth							

Downtown account for about 69% of its traffic; and the municipalities that make up the Zones 9-11 Primary Market Area centered on the southern part of Kittery account for about 71% of its traffic. NECTA is a Census geography that stands for “New England City and Town Area,” which is an alternative definition to metropolitan areas that are otherwise based on counties.

TABLE 37

Estimated Number of Retail, Restaurant, and

Personal Services Businesses

Within 5-, 10-, and 15- Minute Driving Radii

of Memorial Bridge

Time from MB	Number of Businesses
5 Minutes	515
6 - 10 Minutes	399
11 – 15 Minutes	339

Source: Charles Colgan, based on ESRI Business Analyst Online

In sum, as with many projects that add or relocate important public infrastructure, demand for goods and services continues to be met over the long term by existing businesses located -- or existing or new businesses relocated -- to take advantage of a possible shift in traffic flow.

MAP 1. ZONES IN WHICH BUSINESSES WERE SURVEYED

MAP 2. ACTIVITY CENTERS IN PORTSMOUTH AND KITTERY

SURVEY INSTRUMENT: EXIT SURVEY

1. On what street and in what town do you live?

Street: ________________________________
Town: ___ Kittery ___Portsmouth ___Other (Town & State: __________________________

2. Did you cross the Memorial Bridge immediately before coming to this business?

___ Yes ___No

3. Will you cross the Memorial Bridge immediately after leaving this business?

___Yes ___No

4. Did you drive, walk or bike to this business?

___Drive ___Walk ___ Bike

SURVEY INSTRUMENT: BUSINESS MAIL-OUT SURVEY

MAINE AND NEW HAMPSHIRE DOT BUSINESS TRANSPORTATION SURVEY: MARCH 2010

Please answer this short survey as completely as possible. Make your best estimates if you do not have actual data. This survey is anonymous. It does not ask for your name or business name. Further, your answers will be reported only in combination with the answers from other businesses.

Please return the completed survey by MARCH 24 in the pre-addressed, stamped envelope. Surveys RECEIVED after this date will not be counted. Thank you!

Q-1. What is your type of business? (Select **one** answer that most closely describes your business.)

1. ____ Convenience retail (for example, convenience food store, drug store, hardware store, gas station, other store that sells frequently purchased items in conveniently accessed locations)

____ Specialty retail (for example, specialty food store, furniture, equipment, home improvement, appliance, gift, clothing, jewelry, computer, sporting goods, DVD, book, yarn or other store that sells goods purchased at less frequent intervals and for which consumers may shop around)

____ Personal service (for example, hair salon, dry cleaner, or other business that provides personal day-to-day services)

____ Professional, financial, or business service (for example, bank, medical, legal, insurance, real estate, architecture, temporary employment, or other professional or business service)

____ Recreational service (for example, marina, bowling, exercise, etc.)

____ Take-out restaurant

____ Sit-down restaurant or drinking establishment

____ Hotel, motel, inn, bed-and-breakfast, or other lodging

____ Warehousing, distribution, wholesale

). ____ Construction

.. ____ Manufacturing or other production business

2. ____ Other (please specify: ______________________________________)

Q-2. Would you describe your business as <u>primarily</u>:

1. ____ A business that depends on a location with pass-by traffic (whether vehicle or pedestrian)
2. ____ A destination business to which customers come for a specific reason
3. ____ A business that does <u>not</u> rely on customers walking in for goods and services

Q-3. Please estimate the percentage of your business that originates from the following areas (the total should add to 100%):

1.______% from the Town of Kittery
2. ______% from elsewhere on the Maine side of the Piscataquis River
3. ______% from the City of Portsmouth
4. ______% from elsewhere on the New Hampshire side of the Piscataquis River
5. ______% from elsewhere
100% Total

Q-4. Please estimate the share of your customers that, immediately before arriving at your business, must cross: (estimate a percentage for each of the following; percentages do not need to add to 100%)

1. _____% The Memorial (Route 1) Bridge
2. _____% The Sarah Long (Route 1A) Bridge
3. _____% The Piscataquis River Bridge (I-95)
4.

Q-5. Please estimate the share of your customers that reach your business by walking or bicycling across the Memorial (Route 1) Bridge:

1.____ Less than 5%

2.____ 5% to less than 10%

3.____ 10% to less than 20%

4.____20% to less than 30%

5.___ 30% to less than 50%

6.____50% to less than 75%

7.____More than 75%

Q-6. When the Memorial Bridge was closed to vehicular traffic for repairs last October and November and limited to pedestrian and bicycle traffic, how likely do you think it was for vehicle-based customers to reach your business by another route?

1. ____Very likely
2. ____Somewhat likely
3. ____Somewhat unlikely
4. ____Very unlikely
5. ____ Cannot estimate

Q-7. How did your sales during October and November 2009 compare with the average for those months during the previous three years (2006-2008)?

____10% or higher

____1% - 9% higher

____About the same

____1% - 9% lower

___10%-14% lower

___15%-19% lower

___20%-24% lower

___25% or more lower (please specify: ________%)

____ Check here if this is based on actual, rather than estimated, sales figures

Q-8. Where in Portsmouth or Kittery is your business located? (Refer to the attached map, and indicate which of the following “zones” your business is located in.)

IN PORTSMOUTH:	IN KITTERY:
____ Zone 1	____Zone 9
____Zone 2	____Zone 10
____Zone 3	____Zone 11
____ Zone 4	____Elsewhere in Kittery
____ Elsewhere in Portsmouth	

Q-9. How many years has your business existed at its present location?

1. ____ Less than 2 years
2. ____ 2 to less than 5 years
3. ____ 5 to less than 10 years
4. ____ 10 to less than 20 years
5. ____ 20 years or longer

Q-10. How many employees (full and part time) work for your business at this location (including yourself)?

________ employees

Thank you. Please return the completed survey in the enclosed envelope (Morris Communications, 12 High Tide Road, Kennebunkport, ME 04046).

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[1] This estimate is based in part on the perception of businesses participating in the survey as to the likelihood that their customers continued to come to their establishments during the fall 2009 bridge closure. For perspective, the additional travel time to the effected zones from a variety of points in the area via the Sarah Long Bridge ranges from a half-minute to about five minutes.