



SEATTLE TAXICAB RESPONSE TIME STATISTICS

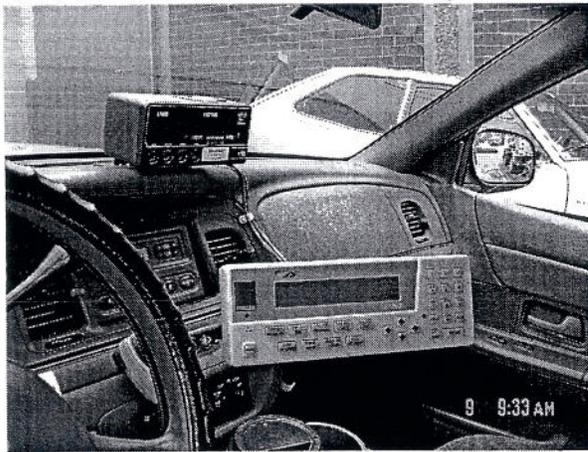
February 2003 – December 2009



September 1, 2010

TAXICAB SERVICE RESPONSE TIMES 2003-2009

SUMMARY. During 2009, the average time required for Seattle taxicabs to respond to requests for service was 9.42 minutes.¹ The average service response times during 2003 – 2009 have increased from 7.71 minutes to 9.42 minutes or approximately 22%. Generally, an optimum overall average service response time in the city should not exceed 10 minutes although average taxicab service response times for different neighborhoods may vary considerably, ranging from 5 minutes to more than 20 minutes. Also, individual taxicab service response times often vary more than the averages. Average service response times reflect many factors besides demand including traffic, weather, special events (e.g., Mariners, Seahawks) and cruise ship arrivals.²



METHODOLOGY. This analysis is based upon average monthly service response times during 2003 - 2007 for a large representative sample of Seattle taxicabs.³ Only computer-dispatch trips were included but time calls were not counted.⁴ Unfortunately, for the sample examined, average service response time data for computer-dispatched trips was not available for every month during 2003-2006. However, monthly data for 2003, 2005 - 2007 is nearly complete. Overall, data is available for 5,294,153 trips performed over a period of 49 months.

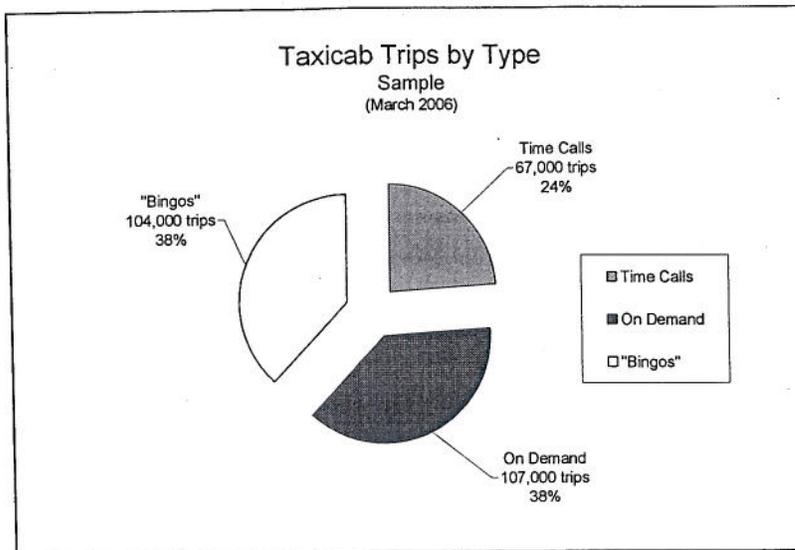
ANALYSIS. It is estimated by the taxicab industry that time trips comprise approximately 38% of total dispatched trips. For example, during March 2006, in the sample examined, there were approximately 67,000 time trips and 107,000 other dispatched trips out of 174,000 total dispatched trips. Time trips cannot be considered when computing average service response times for each dispatch zone because the service requests are generally made hours in advance of trips. Also not included are "bingos" – the name given to trips that are not dispatched (e.g., taxicab zone walk-ups, hailed trips). There is no

¹ Taxicab service response time refers to the time difference between the time that call takers at the taxicab association receive the request for service and the time at which passengers are seated in the taxicab and the driver activates the taximeter. This measure includes the time required for passengers to be seated and the time required for the driver to load luggage (if any). For taxicab demand data see *Seattle Taxicab Industry Revenue and Operating Statistics [Using Taximeter Totalizer Readings] 2009-2010* (8/31/2010).

² The average service response time will vary with changes in demand for taxicab services and depending upon the dispatch zone, traffic, weather, time of day and season of year. The average reflects overall response times including the effects of these variables.

³ The sample used varied slightly from year to year but comprised more than 50% of the Seattle taxicab fleet or about 368 taxicabs.

⁴ Time calls are requests for service made for some time in the future (e.g., transportation to the airport, transportation to Medicaid doctor appointments scheduled by Hopelink – the DSHS contractor for King County). For obvious reasons, it is not possible to compute meaningful response times for time calls.



accurate method to measure "bingos." The computer dispatch system can be queried to count "meter on –meter off" events for any taxicab for any day but this is very time consuming and these events include "dumped" trips (e.g., refused short trips), "soon to clear" trips (deadheading), and other non-revenue trips.

It is estimated that, industry-wide, non-dispatched trips range from 20% (winter) to 50% (summer) of total taxicab trips. The pie chart illustrates the approximate division of trips by type.

Computer-dispatched taxicabs comprise 97% of the Seattle taxicab industry.⁵ A driver of a computer-dispatched taxicab "books in" to a zone and is placed in a virtual queue. The taxicab association call takers enter service requests into the dispatch computer and the computer assigns trips to taxicabs in the order they are booked into the zone. There are approximately 36 dispatch zones in Seattle. As one might expect, some zones are busier than others. If no taxicabs are booked into a zone, the computer defaults to adjacent zones following software design protocols.

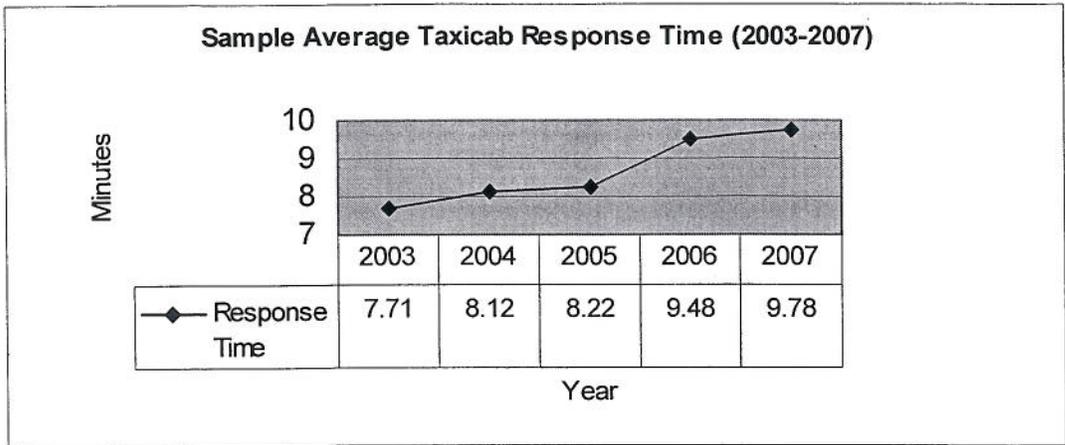
The monthly average service response times are actually weighted averages calculated by summing the products of the average response time and number of service calls in each dispatch zone then dividing by the total number of trips during the month. The annual average service response times are computed in the same manner. Since data for some months are missing, the calculated values are not exact but they are useful approximations.

During the period 2003-2007, the annual average service response times for the samples increased 2.07 minutes from 7.71 minutes to 9.78 minutes or approximately 27%. Most of the increase, 1.26 minutes or 16%, occurred between 2005 and 2006.⁶ The average service response times during 2003 - 2005 averaged about 8 minutes but increased to nearly 10 minutes during 2006-2007. This suggests that increased demand for taxicab service may have outgrown the available supply of taxicabs.⁷ If this trend persists, it may mean that additional taxicab licenses are needed to equalize supply and demand so that taxicab service response times remain reasonable.

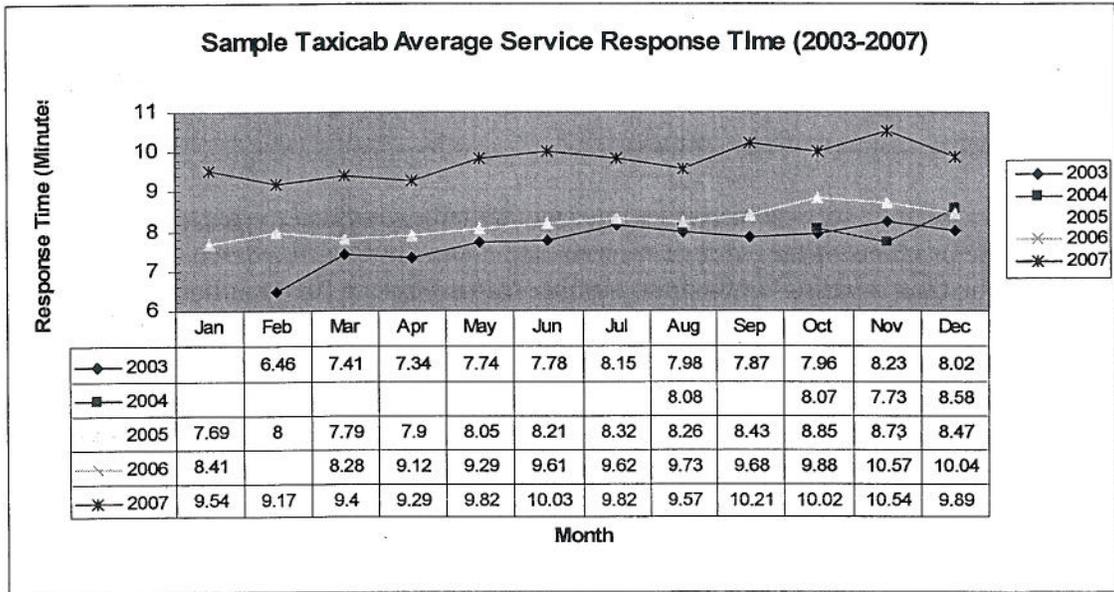
⁵ Yellow Cab (364), Orange Cab (182), and Farwest Taxi (87) or 633 out of 651 licensed Seattle taxicabs.

⁶ This increase was due, in large part, to the "wage effect" following the taximeter rate hike on April 1, 2005. Many drivers elected to work shorter shifts because they could earn the same revenue in fewer hours.

⁷ Assuming average hours worked per shift remains constant or continues to decline.

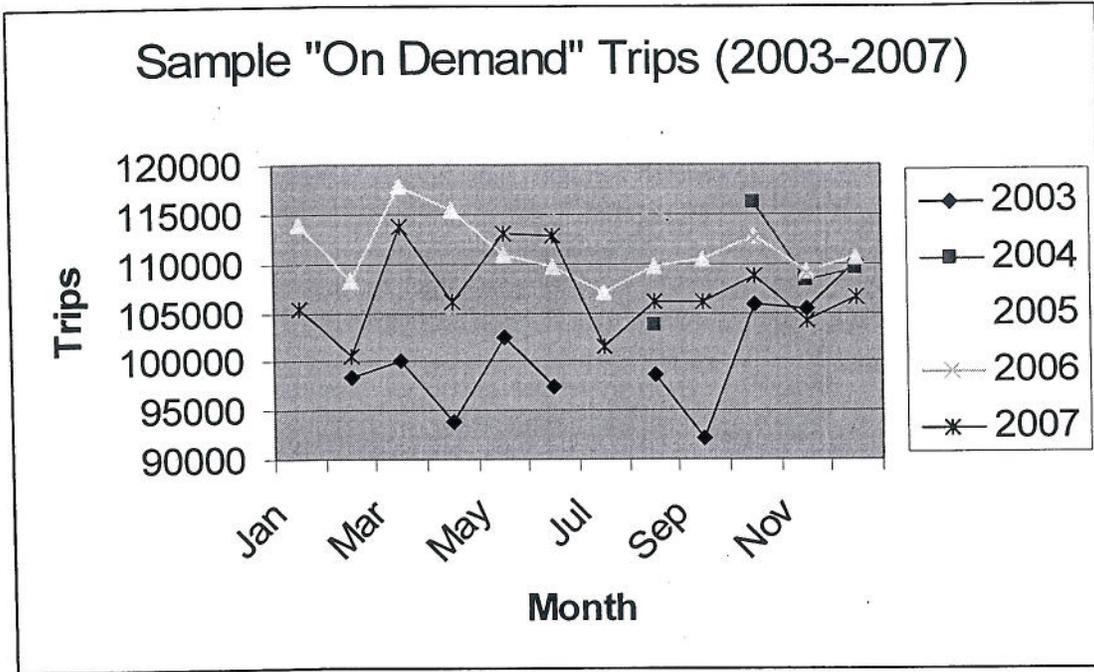


Despite the fact that monthly dispatched trip data for the sample is not complete, it is still possible to observe some trends that may be worthy of further examination. First, the monthly average service response times generally increase from January to December. This may reflect the growth in “bingos” during the summer tourist season and the fall holiday season. Second, monthly average service response times are higher each year than the same months in preceding years indicating a continuing growth in overall demand. This may be due to the economic recovery following the 2001 recession.



The number of “on demand” dispatched trips during 2003-2007 (that is, excluding time trips) leveled off during 2005-2007. This may be the result of the taximeter rate hike that became effective on April 1, 2005. Additionally, the frequent imposition of temporary fuel surcharges up to \$1.50 per trip may reduced the quantity of trips demanded somewhat – especially for passengers with fixed or low incomes. Another reason for the stagnant “on demand” dispatched trip counts is the rapid growth in the cruise ship

industry and the overall boom in the tourist industry which are generally reflected in an increase of “bingos.”



CONCLUSIONS. The conclusions that may be drawn are somewhat limited since many factors affect taxicab service response times. Also, for a more complete picture, the data contained in this report must be used in conjunction with other data such as the taxicab industry revenue and operating statistics derived from taximeter totalizer comparison readings.⁸ However, the general trend of rising average service response times from year to year implies that demand for taxicab services appears to be outstripping supply. Moreover, the recent jump in the average annual service response times between 2005 and 2006, due largely to the “wage effect”, may be particularly significant.⁹ Finally, the fact that the 2007 average service response time is approaching the 10 minute optimum may indicate that additional taxicab licenses should be issued soon.

⁸ See Note 1.

⁹ The average time charge was nearly unchanged from 2005 to 2006 so traffic congestion was not a factor. The reduction of hours worked by taxicab drivers due to the wage effect is beneficial to the typical taxicab driver who is used to working 12-hour shifts 5-6 days per week in heavy traffic which can cause fatigue and impair driving safety.

SEATTLE TAXICAB RESPONSE TIME STATISTICS: DECEMBER 2003-DECEMBER 2007

SEATTLE TAXICAB RESPONSE TIME STATISTICS BY ZONE (Minutes)

ZONE	Dec 2003	Dec 2004	Dec 2005	Dec 2006	Dec 2007
Broadview	10	11	11	12	14
Northgate	10	10	11	12	12
Lake City	11	11	12	13	13
Greenwood	9	9	10	10	9
Green Lake	11	10	10	11	11
Roosevelt	12	12	12	13	12
Ballard	10	9	8	10	9
Crown Hill	12	11	11	11	11
Fremont	8	9	8	10	10
Wallingford	8	9	8	9	10
U. District	9	9	10	11	10
Sand Point	14	14	14	16	15
Magnolia	11	12	11	12	14
Queen Anne	6	7	6	7	11
Top of Queen Anne	9	10	10	11	7
Denny Regrade	6	6	6	7	8
Westlake	7	7	7	9	10
Eastlake	9	9	9	9	9

Broadway	5	5	4	8	7
Madison Park	9	9	9	11	10
Montlake	12	13	13	13	13
North Uptown	6	7	7	9	9
South Downtown	6	6	6	10	9
Waterfront	7	8	9	9	9
Medical	7	9	10	10	11
Yesler	8	9	9	10	11
Rainier Valley	11	12	9	13	12
Pioneer Square	7	7	7	9	9
W. Seattle – Admiral	13	13	13	14	14
W. Seattle	12	11	12	14	13
W. Seattle – Fauntleroy	12	13	14	15	15
Duwamish	10	10	10	11	13
Columbia City	13	14	16	11	13
N. Beacon Hill	12	12	13	14	13
S. Beacon Hill	14	19	19	21	19
Rainier Beach	12	15	17	22	18
December Average	8.02	8.58	8.47	10.04	9.89
- All Zones					

NOTES: (1) These service response times are the averages for each zone for the month of December for 2003, 2004, 2005, 2006 and 2007. (2) December, because of the holidays, is one of the busiest months of the year for taxicab use. As a result, the average service response time during that month is slightly longer than most of the other months – particularly the beginning of the year.

SEATTLE TAXICAB RESPONSE TIME STATISTICS
 DECEMBER 2003-DECEMBER 2009

YELLOW CAB RESPONSE TIME STATISTICS BY ZONE
 (Minutes)

ZONE	Dec 2003	Dec 2004	Dec 2005	Dec 2006	Dec 2007	Dec 2008	Dec 2009
Broadview	10	11	11	12	14	13	12
Northgate	10	10	11	12	12	14	11
Lake City	11	11	12	13	13	13	11
Greenwood	9	9	10	10	9	11	9
Green Lake	11	10	10	11	11	11	10
Roosevelt	12	12	12	13	12	13	11
Ballard	10	9	8	10	9	9	7
Crown Hill	12	11	11	11	11	14	10
Fremont	8	9	8	10	10	9	8
Wallingford	8	9	8	9	10	10	8
U. District	9	9	10	11	10	11	8
Sand Point	14	14	14	16	15	14	11
Magnolia	11	12	11	12	14	12	11
Queen Anne	6	7	6	7	11	12	8
Top of Queen Anne	9	10	10	11	7	8	7
Denny Regrade	6	6	6	7	8	8	7
Westlake	7	7	7	9	10	10	8
Eastlake	9	9	9	9	9	12	8
Broadway	5	5	4	8	7	7	6
Madison Park	9	9	9	11	10	11	10
Montlake	12	13	13	13	13	18	11
North Uptown	6	7	7	9	9	9	8
South Downtown	6	6	6	10	9	10	9
Waterfront	7	8	9	9	9	17	7
Medical	7	9	10	10	11	10	8
Yesler	8	9	9	10	11	11	8
Rainier Valley	11	12	9	13	12	13	10
Pioneer Square	7	7	7	9	9	12	9
W. Seattle - Admiral	13	13	13	14	14	18	12

W. Seattle	12	11	12	14	13	14	10
W. Seattle -- Fauntleroy	12	13	14	15	15	18	13
Duwamish	10	10	10	11	13	12	12
Columbia City	13	14	16	11	13	12	12
N. Beacon Hill	12	12	13	14	13	14	12
S. Beacon Hill	14	19	19	21	19	18	14
Rainier Beach	12	15	17	22	18	19	14
December Average	8.02	8.58	8.47	10.04	9.89	10.49	8.57
- All Zones							

NOTES: (1) These service response times are the averages for each zone for the month of December for 2003-2009. (2) December, because of the holidays, is one of the busiest months of the year for taxicab use. As a result, the average service response time during that month is slightly longer than most of the other months -- particularly the beginning of the year.