
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer
FROM: John Zarafonitis, Seasonal Engineering Aide 
DATE: Monday, August 4, 2014
SUBJECT: Pedestrian and Parking Study of West Front St. between Pine St. and Division St.

City Engineering performed an on-site pedestrian and parking study of W. Front St. from Monday, July 21, 2014 until Wednesday, July 30, 2014 in between Pine St. and Division St. This memo is to formalize City Engineering's initial findings and observations with regard to the patterns of pedestrians and vehicles on this section of W. Front St.

The data was gathered by field observation of this particular stretch of W. Front St. at three separate times of the weekday: morning, lunchtime, and afternoon hours. During each observation the number of metered vacant and occupied parking spaces was counted, along with any patterns that would occur with vehicles parked throughout the day. Before the first observation was done, the number of spaces that should be on this section of W. Front St. was counted using satellite imagery from Pictometry Online. Then, to see if any changes had occurred since the images were taken, the number of available spaces was counted during the first few observations to ensure accurate counts. Traffic congestion was also monitored during each observation, with a low recording meaning little traffic with large gaps and a high recording meaning heavy traffic with little to no gaps. The usage of the sidewalk and bike lanes by pedestrians, cyclists, and coaster toys were recorded during each observation as well. Pedestrians were broken down into adults, children/teens, elderly, and disabled to show the kinds of pedestrians and not just the number that are using this area of W. Front St.

During the study, some trends involving parking habits emerged. The stretch of W. Front St. between Oak St. and Maple St., which has a large number of businesses, had at least one or two employees park on Front St. every day. It was assumed that these vehicles were owned by employees due to them being in the same spot for a large portion of the day, and being in that same area more than one observed day. The few parking spaces just before Oak St., when heading west, had employees of the bank and office building located on the corners using these parking spaces on a daily basis. Over the course of the study there were four total vehicles, considered to be owned by employees, observed occupying these parking spaces, with only one of the days observed having all four there. Overall, the vehicles that parked on this stretch of W. Front St. did so near businesses, causing at least a few spaces to be open at all times of the day on each block. There was also one observed time, in the afternoon, when a vehicle was parked in the loading zone in front of the Lake Michigan Credit Union building.

There were a few pedestrian trends that were observed as well over the course of the study. The most important of which was that most of the pedestrian traffic happened near the businesses and restaurants along this section of W. Front. People exercising via jogging along this stretch tended to do so in the morning with two, what appeared to be, high school track teams practicing during these hours.

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Once the data was compiled into a spreadsheet, a few interesting trends emerged; these are listed below:

1. The heaviest pedestrian traffic on W. Front St. between Pine St. and Division St. occurs in the early afternoon/lunch hours
2. Generally speaking, adults make up most of the pedestrian traffic
3. The highest amount of bicycle traffic tends to happen in the early afternoon/lunch hours
4. Traffic congestion on this stretch of Front St. is low in the morning, medium to high around lunch, and medium to low in the afternoon
5. The highest number of occupied parking spaces occurs around lunch
6. There were three recorded times when the total number of occupied spaces exceeded the number of parking spaces provided on the south side of W. Front St. Therefore, if parking was to be eliminated on the north side, there are three recorded times when parking demand would exceed the number of available parking spaces.

For more information on these trends please see attached spreadsheet.

It should be noted that the Traverse City Film Festival started on Tuesday 7-29-14, and therefore could have had an influence on the data collected the day before and the day after.

Encl.: W Front St. Usage Spreadsheet
W. Front St. Field Observations Worksheets

W. Front St. 2014 Usage Study

General Information

Date	Day	Conditions		
		Morning	Around Lunch	Afternoon
7/21/2014	Monday	N/A	Partly Cloudy, 82°	Partly Cloudy, 82°
7/22/2014	Tuesday	Partly Cloudy/Sunny, 73°	Mostly Cloudy, 84°	N/A
7/23/2014	Wednesday	Cloudy, 61°	Cloudy, 61°	N/A
7/24/2014	Thursday	Sunny, 54°	Sunny, 70°	Sunny, 72°
7/25/2014	Friday	Cloudy, 61°	Partly Cloudy, 75°	N/A
7/28/2014	Monday	Cloudy, 57° (Very Cloudy almost Stormy)	Partly Cloudy, 61°	Partly Cloudy, 64°
7/30/2014	Wednesday	Partly Cloudy, 55°	Partly Cloudy, 66°	N/A

Parking Spaces

From Map	Total Observed	Handicap	On North Side of West Front	On South Side of West Front
85	85	1	37	48

Pedestrian and Bicycle Morning Usage

Date	Time	Adults	Children/Teens	Elderly	Disabled	Bicycles		Coaster Toys		Total
						Bike Lane	Side Walk	Bike Lane	Side Walk	
7/21/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
7/22/2014	8:50 AM	10	1	2	0	3	1	0	0	17
7/23/2014	8:20 AM	5	18	2	0	1	1	0	0	27
7/24/2014	8:42 AM	5	0	1	0	4	4	0	0	14
7/25/2014	8:38 AM	9	0	0	0	7	1	0	1	18
7/28/2014	8:48 AM	4	0	1	0	4	1	0	0	10
7/30/2014	8:35 AM	11	6	2	0	1	1	0	0	21

W. Front St. 2014 Usage Study

Pedestrian and Bicycle Around Lunch Usage

Date	Time	Adults	Children/Teens	Elderly	Disabled	Bicycles		Coaster Toys		Total
						Bike Lane	Side Walk	Bike Lane	Side Walk	
7/21/2014	1:56 PM	12	2	2	0	7	4	1	0	28
7/22/2014	2:15 PM	12	1	0	0	8	2	0	0	23
7/23/2014	2:00 PM	9	2	3	0	2	2	0	0	18
7/24/2014	1:58 PM	24	4	8	0	3	5	0	0	44
7/25/2014	1:18 PM	22	0	2	0	0	1	0	0	25
7/28/2014	2:00 PM	20	7	2	2	1	3	0	0	35
7/30/2014	1:58 PM	17	2	4	0	2	1	0	0	26

Pedestrian and Bicycle Afternoon Usage

Date	Time	Adults	Children/Teens	Elderly	Disabled	Bicycles		Coaster Toys		Total
						Bike Lane	Side Walk	Bike Lane	Side Walk	
7/21/2014	4:55 PM	3	0	0	0	3	2	0	0	8
7/22/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
7/23/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
7/24/2014	4:21 PM	14	0	1	1	4	2	0	0	22
7/25/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
7/28/2014	4:30 PM	9	5	1	0	1	1	0	0	17
7/30/2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0

Pedestrian and Bicycle Notes

- Traverse City Film Festival started Tuesday 7-29-14
- Track Teams observed Tuesday 7-22-14 and Wednesday 7-30-14 mornings

W. Front St. 2014 Usage Study

Traffic and Parking Morning Usage

Date	Time	Parking Spaces		Traffic Congestion *
		Occupied	Vacant	
7/21/2014	N/A	N/A	N/A	N/A
7/22/2014	8:50 AM	19	66	Low
7/23/2014	8:20 AM	10	75	Low
7/24/2014	8:42 AM	10	75	Low
7/25/2014	8:38 AM	5	80	Low
7/28/2014	8:48 AM	13	72	Low
7/30/2014	8:35 AM	20	65	Low

Traffic and Parking Around Lunch Usage

Date	Time	Parking Spaces		Traffic Congestion *
		Occupied	Vacant	
7/21/2014	1:56 PM	45	40	Medium to High
7/22/2014	2:15 PM	36	49	Medium
7/23/2014	2:00 PM	52	33	Medium
7/24/2014	1:58 PM	42	43	Medium to High
7/25/2014	1:18 PM	63	22	Medium
7/28/2014	2:00 PM	46	39	High
7/30/2014	1:58 PM	57	28	Medium to High

* Low = Very Little Traffic

Medium = Moderate traffic, normal gaps for the time period

High = Heavy Traffic, little to no gaps

W. Front St. 2014 Usage Study

Traffic and Parking Afternoon Usage

Date	Time	Parking Spaces		Traffic Congestion *
		Occupied	Vacant	
7/21/2014	4:55 PM	17	68	Medium to Low
7/22/2014	N/A	N/A	N/A	N/A
7/23/2014	N/A	N/A	N/A	N/A
7/24/2014	4:21 PM	28	57	Medium to Low
7/25/2014	N/A	N/A	N/A	N/A
7/28/2014	4:30 PM	32	53	Medium
7/30/2014	N/A	N/A	N/A	N/A

* Low = Very Little Traffic

Medium = Moderate traffic, normal gaps for the time period

High = Heavy Traffic, little to no gaps

Traffic and Parking Notes

- When congestion varies from medium to high or medium to low it is due to a vehicle having to wait to turn left off of W. Front St. and backing up traffic. Also, at times the red cycle of the stop lights at Union St. & Front St. and at Division St. & Front St. reduced the peak congestion by providing adequate gaps for turning vehicles creating opportunities for signal timing coordination
- Traverse City Film Festival started Tuesday 7-29-14