



**Consulting**



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May 25, 2015

DeWitt Community Library  
3649 Erie Boulevard East  
DeWitt, NY 13214

Attn: Ms. Wendy Scott – Executive Director

**Re: Traffic Impact Assessment – Proposed DeWitt Community Library  
Jamesville Road – Town of DeWitt, NY**

Dear Ms. Scott:

I have completed my review of the traffic operations associated with the proposed DeWitt Community Library on Jamesville Road in the Town of DeWitt, NY. This letter summarizes the work completed in this review as well as my findings and conclusions.

#### *Project Understanding*

The project site is located on the east side of Jamesville Road opposite and south of Quintard Road in the Town of DeWitt, NY. The proposed development will include a 23,000 SF library, which will be accessed via one full access driveway to Jamesville Road approximately 350 feet south of Quintard Road. The site is currently vacant.

A site plan prepared by Keplinger Freeman Associates and King & King Architects, dated April 21, 2015, has been attached.

#### *Data Collection*

Site visits were conducted on Wednesday, May 20<sup>th</sup>, 2015 to collect the following:

- Existing Traffic Volume Counts – Traffic turning movement counts were collected on Jamesville Road passing the site during the morning (7-9am) and evening (4-6pm) peak travel periods to ensure that actual peak hours of the adjacent street were captured. The traffic counts were collected when area schools were in session. There was minimal pedestrian activity observed during the traffic count periods.
- Jamesville Road Gap Data – Gap data was collected to assess the ability for vehicles to turn in and out of the proposed driveway on Jamesville Road during the morning and evening peak commuter periods. In order for a vehicle to turn right onto Jamesville Road or left into the site from Jamesville Road, the vehicle only requires a gap in the northbound travel direction. A vehicle requires a gap in traffic in both directions at the same time to turn left out of the site driveway onto Jamesville Road. These gaps in traffic were observed and timed on Jamesville Road during both the morning and evening traffic count periods. The gaps were then converted to a number of vehicles that could turn left or right out of the proposed site driveway during each gap and then totaled for the peak hour. For example, one vehicle can turn from a side



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street with a 6-9 second gap in traffic, two can turn with a 10-13 second gap, 3 with a 14-17 second gap, 4 with an 18-19 second gap, etc.

- Sight Distance Measurements – Sight lines looking north/south along Jamesville Road from the proposed site driveway location were collected for comparison to design standards in order to confirm that adequate sight lines are available for safe ingress and egress from the site.
- Operational Data - Other data needed to evaluate traffic operations, such as roadway geometry and speeds limits were also collected.

*Existing Operations*

Based on the traffic counts collected, the peak hours were identified as follows:

Morning Peak Hour – 7:15am to 8:15am  
 Evening Peak Hour – 5:00pm to 6:00pm

Jamesville Road operates as a secondary arterial in the area with approximately 300-400 vehicles traveling in each direction during both the morning and evening peak hours. Traffic volumes were nearly identical during both the morning and evening peak hours with 287-292 southbound vehicles and 371-397 northbound vehicles observed. It serves as the primary connection for the residential neighborhoods in the area to get to Genesee Street to the north or I-481 to the south.

Based on the Jamesville Road gap data collected, there are sufficient gaps in traffic to accommodate over 500 vehicles turning right onto Jamesville Road during both the morning and evening peak hours. There are sufficient gaps to accommodate more than 300 vehicles turning left onto Jamesville Road during both peak hours. The gap data is attached.

The following table provides a summary of the recommended sight distances along Jamesville Road from the AASHTO A Policy on Design of Highways and Streets as well as the available sight distances based on field measurements. With a posted speed limit of 30 mph, a 35mph operating speed was assumed in reviewing the recommended sight distances.

**Sight Distance Summary**

Location	Speed Limit	Direction	AASHTO	
			Recommended Sight Distance	Available Sight Distance
Jamesville Road @ Proposed Library Access – Turning Left	35 mph	Looking Left	390 feet	800+ feet
		Looking Right	390 feet	600+ feet
Jamesville Road @ Proposed Library Access – Turning Right	35 mph	Looking Left	335 feet	800+ feet



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The sight lines in the both directions on Jamesville Road are both well over the recommended design guidelines.

*Trip Generation Estimate and Distribution*

The proposed DeWitt Community Library will be approximately 23,000 SF in size. Trips generated by the proposed library were estimated using the ITE Trip Generation, 9<sup>th</sup> Edition, which is the industry accepted standard for estimating traffic generated by new developments. Land Use 590 – Library was used. The following tables summarize the trip generation estimate for the proposed DeWitt Community Library.

	<b>Trip Generation Estimate – DeWitt Community Library</b>			
	<b>Morning Peak</b>		<b>Evening Peak</b>	
	<b>Entering</b>	<b>Exiting</b>	<b>Entering</b>	<b>Exiting</b>
Library – 23,000 SF	17	7	81	87

The detailed trip generation calculations have been attached.

Overall, the proposed library is expected to be a minor traffic generator during the morning peak commuter hour with less than 20 vehicles entering or exiting the site. During the evening peak hour, the library is expected to generate approximately 80-90 vehicles entering and exiting which is less than the 100 vehicle threshold which typically requires a traffic impact assessment.

Based on existing traffic patterns, population centers and roadway connections in the area, it is estimated that approximately 65% of the traffic generated will travel to/from the north on Jamesville Road and 35% will travel to/from the south on Jamesville Road. The following table provides a summary of the projected traffic volumes on Jamesville Road to the north and south of the site after the library is completed.

	<b>Existing Traffic (Vehicles)</b>		<b>Projected Trips (Vehicles)</b>		<b>Build Traffic (Vehicles)</b>	
	<b>Northbound</b>	<b>Southbound</b>	<b>Northbound</b>	<b>Southbound</b>	<b>Northbound</b>	<b>Southbound</b>
<b>Jamesville Rd North of Site</b>	AM – 397 PM – 371	AM – 292 PM – 287	AM – 5 PM – 57	AM – 11 PM – 53	AM – 402 PM – 428	AM – 303 PM – 340
<b>Jamesville Rd South of Site</b>	AM – 397 PM – 371	AM – 292 PM – 287	AM – 6 PM – 28	AM – 2 PM – 30	AM – 403 PM – 399	AM – 294 PM – 317

Based on the projected traffic volumes for the proposed library, the actual increase in traffic on Jamesville Road north of the site will be approximately 2% during the morning peak hour and 17% during the evening peak hour. On Jamesville Road to the south of the site, the actual increase in traffic will be approximately 1% during the morning peak hour and 9% during the evening peak hour.



## Intersection Gap Study

Project: Proposed DeWitt Community Library - Jamesville Road  
 Date: 5/20/2015



Intersection: Site Driveway @ Jamesville Road  
 Movement: Left Turns Entering / Right Turns Exiting

Time Interval		6-9 sec x 1	10-13 sec x 2	14-17 sec x 3	18-19 sec x 4	20-23 sec x 5	24-25 sec x 6	26-29 sec x 7	>29 sec x 8	Interval Total	Hour Total
Morning Peak											
7:15-7:30am	# of Gaps	6	5	5	2	1	2	4	8		
	<b># of Vehicles</b>	<b>6</b>	<b>10</b>	<b>15</b>	<b>8</b>	<b>5</b>	<b>12</b>	<b>28</b>	<b>64</b>	<b>148</b>	
7:30-7:45am	# of Gaps	6	8	4	2	3	3	1	6		
	<b># of Vehicles</b>	<b>6</b>	<b>16</b>	<b>12</b>	<b>8</b>	<b>15</b>	<b>18</b>	<b>7</b>	<b>48</b>	<b>130</b>	
7:45-8:00am	# of Gaps	8	11	11	1	2	0	3	2		
	<b># of Vehicles</b>	<b>8</b>	<b>22</b>	<b>33</b>	<b>4</b>	<b>10</b>	<b>0</b>	<b>21</b>	<b>16</b>	<b>114</b>	
8:00-8:15am	# of Gaps	11	12	7	2	2	0	3	4		
	<b># of Vehicles</b>	<b>11</b>	<b>24</b>	<b>21</b>	<b>8</b>	<b>10</b>	<b>0</b>	<b>21</b>	<b>32</b>	<b>127</b>	<b>519</b>

Evening Peak											
5:00-5:15pm	# of Gaps	7	7	4	0	1	1	3	9		
	<b># of Vehicles</b>	<b>7</b>	<b>14</b>	<b>12</b>	<b>0</b>	<b>5</b>	<b>6</b>	<b>21</b>	<b>72</b>	<b>137</b>	
5:15-5:30pm	# of Gaps	7	8	2	2	2	0	4	7		
	<b># of Vehicles</b>	<b>7</b>	<b>16</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>0</b>	<b>28</b>	<b>56</b>	<b>131</b>	
5:30-5:45pm	# of Gaps	4	7	6	2	5	0	3	5		
	<b># of Vehicles</b>	<b>4</b>	<b>14</b>	<b>18</b>	<b>8</b>	<b>25</b>	<b>0</b>	<b>21</b>	<b>40</b>	<b>130</b>	
5:45-6:00pm	# of Gaps	8	6	4	2	5	0	0	6		
	<b># of Vehicles</b>	<b>8</b>	<b>12</b>	<b>12</b>	<b>8</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>48</b>	<b>113</b>	<b>511</b>

## Intersection Gap Study

Project: Proposed DeWitt Community Library - Jamesville Road  
 Date: 5/20/2015



Intersection: Site Driveway @ Jamesville Road  
 Movement: Left Turns Exiting

Time Interval		6-9 sec x 1	10-13 sec x 2	14-17 sec x 3	18-19 sec x 4	20-23 sec x 5	24-25 sec x 6	26-29 sec x 7	>29 sec x 8	Interval Total	Hour Total
<b>Morning Peak</b>											
7:15-7:30am	# of Gaps	11	9	5	3	2	2	2	0		
	<b># of Vehicles</b>	<b>11</b>	<b>18</b>	<b>15</b>	<b>12</b>	<b>10</b>	<b>12</b>	<b>14</b>	<b>0</b>	<b>92</b>	
7:30-7:45am	# of Gaps	14	12	3	1	2	2	1	0		
	<b># of Vehicles</b>	<b>14</b>	<b>24</b>	<b>9</b>	<b>4</b>	<b>10</b>	<b>12</b>	<b>7</b>	<b>0</b>	<b>80</b>	
7:45-8:00am	# of Gaps	17	12	6	2	0	0	1	0		
	<b># of Vehicles</b>	<b>17</b>	<b>24</b>	<b>18</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>74</b>	
8:00-8:15am	# of Gaps	26	11	7	0	0	0	1	0		
	<b># of Vehicles</b>	<b>26</b>	<b>22</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>76</b>	<b>322</b>

<b>Evening Peak</b>											
5:00-5:15pm	# of Gaps	18	11	5	0	1	0	0	0		
	<b># of Vehicles</b>	<b>18</b>	<b>22</b>	<b>15</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60</b>	
5:15-5:30pm	# of Gaps	16	10	7	2	2	0	1	0		
	<b># of Vehicles</b>	<b>16</b>	<b>20</b>	<b>21</b>	<b>8</b>	<b>10</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>82</b>	
5:30-5:45pm	# of Gaps	18	8	4	3	2	2	2	0		
	<b># of Vehicles</b>	<b>18</b>	<b>16</b>	<b>12</b>	<b>12</b>	<b>10</b>	<b>12</b>	<b>14</b>	<b>0</b>	<b>94</b>	
5:45-6:00pm	# of Gaps	16	9	8	4	1	1	0	0		
	<b># of Vehicles</b>	<b>16</b>	<b>18</b>	<b>24</b>	<b>16</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>85</b>	<b>321</b>

# Proposed DeWitt Community Library - Town of DeWitt, NY

## Trip Generation Estimate

Proposed Development

23,000 SF Library

### *ITE Trip Generation - 9th Edition*

#### Land Use 590 - Library

AM Peak Hour

1.04 Trips/1000 SF

71% Enter

29% Exit

PM Peak Hour

7.30 Trips/1000 SF

48% Enter

52% Exit

### Trip Generation Summary

Development	Size	Morning Peak Hour			Evening Peak Hour		
		Total Trips	Entering	Exiting	Total Trips	Entering	Exiting
Library	23,000 SF	24	17	7	168	81	87