



Heritage Rail Trail Crossing Study

Hilliard, Franklin County, Ohio

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8/29/2012

This study evaluates the safety of the pedestrian/bicycle crossings of the Heritage Rail Trail at Leppert Road, Cosgray Road, and Hayden Run Road in Hilliard and northwestern Franklin County, Ohio.

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Review and technical assistance with the Heritage Rail Trail Crossing Study was provided by **Stantec Consulting Group, Inc.**, 1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Executive Summary

The Heritage Rail Trail has become increasingly popular with a variety of path users, particularly in recent years as the trail has been extended northwest toward Plain City and new development has occurred adjacent to the path. More than a recreational path for local residents, it has become a means of transportation for individuals and families that live in Hilliard and an attraction that brings visitors, predominantly cyclists, to the City. Future trail connections of the Heritage Rail Trail are planned to Battelle Darby Metro Park and to other places beyond central Ohio (via the Ohio to Erie Trail). With these connections, Hilliard anticipates more long distance cyclists will use the trail to travel throughout the region and the state. While trail extensions are a priority, maintaining the existing trail as a safe and comfortable facility for all users ensures that the trail will continue to contribute to the social and economic well-being of Hilliard and northwestern Franklin County.

While traffic volumes have increased on the area streets over the past decade, vehicle speeds have not decreased as would be desired in an area that is slowly transitioning from a rural to suburban environment. The character of many streets in western Hilliard still have a more rural feel (open ditch drainage, no curbs, no street lighting), which tends to encourage faster speeds. This combination of increased trail use, increased vehicle traffic volumes, and moderate to high speed of traffic has resulted in difficulty for trail users to find adequate gaps in traffic on Leppert Road and Cosgray Road during peak hours. These problems will need to be addressed to preserve the trail's attractiveness, encourage a more healthy and active community, and encourage growth and extension of the Heritage Rail Trail beyond the City.

The City of Hilliard should implement safety enhancements at the Leppert Road and Cosgray Road crossings to improve visibility, reduce vehicle speeds, and encourage yielding of motorists to trail users when vehicle traffic volumes are heavy.

The following recommendations are presented for the Heritage Rail Trail crossings of Leppert Road and Cosgray Road.

Short Term

1. Bring signs into compliance with the current version of the OMUTCD. Vertical and horizontal offsets of signs should be increased to improve visibility.
2. Add advance signing and pavement marking to signify that a trail crossing is ahead and that motorists should yield to trail users.
3. Survey and dedicate the street right-of-way along the trail in accordance with the Hilliard Thoroughfare Plan.

4. Install decorative fencing to clearly define the right-of-way line and clear zone edge. The trail-side edge of the fence should include street name signage to notify trail users what street they are crossing.
5. Remove all landscape mounds and plantings within the right-of-way and replant landscaping further back from the street edge and outside all site triangles.

Medium Term

1. Install a pedestrian actuated (or motion sensor) Rectangular Rapid Flashing Beacon (RRFB). Site distance should be evaluated to determine whether one side-mounted beacon is appropriate or whether the RRFB should be two-sided or mast arm mounted to increase visibility. Care should be made to situate the sign posts so they do not obstruct visibility of oncoming traffic or obscure waiting trail users.
2. Install downward-directed lighting at the crossing to improve pedestrian visibility.
3. Realign and widen the trail at the street crossing to provide a more perpendicular street crossing and a wider staging area for trail users on the right side of each approach.
4. Add curbing along the street edge approximately 400' to 500' in advance of the trail crossing. This work will require either coordination/permitting by the Franklin County Engineer's Office or annexation of street right-of-way from Franklin County to the City of Hilliard north of the trail.
5. Work with private utility companies to modify the fencing and/or guardrail surrounding their facilities at the northeast corner of the trail crossing and Cosgray Road to reduce visual background "clutter" and improve visibility to the north on Cosgray Road.
6. Evaluate the feasibility of constructing a pedestrian refuge island to provide a two-stage divided crossing of the 2-lane roadway.

Long Term

1. Provide a pedestrian refuge island when the street is reconstructed to 4/5 lanes to provide a two-stage divided crossing.
2. Evaluate the effectiveness of the RRFB in terms of pedestrian safety, delay, and yielding behavior. Make changes, if necessary, based on current-day recommendations and engineering tools.

Background and Existing Conditions

History

The Heritage Rail Trail is a paved multi-use path that was built within an abandoned railroad corridor. When Hilliard was founded in 1853, the community was formed around the railroad

line, and the railroad provided a vital connection between Hilliard and other communities along the line. Today, the Heritage Rail Trail provides an important connection to the city and *within* the community. The Heritage Rail Trail not only provides a recreational and transportation opportunity for Hilliard citizens, but it also attracts cyclists outside the area and connects Hilliard neighborhoods to the downtown historic district.

Location

The trailhead is located approximately three blocks northwest of the intersection of Main Street and Center Street in Hilliard, Ohio. From here, the trail extends 6.1 miles northwest where the path terminates near Cemetery Pike in Madison County, approximately one mile southeast of Plain City, Ohio. There are four public street crossings along the trail; each street and its corresponding distance from the beginning of the trail are as follows: Leppert Road (0.6 miles), Cosgray Road (1.3 miles), Hayden Run Road (2.5 miles), and Rings Road/Amity Pike (4.1 miles). A location map is shown below in Figure 1.

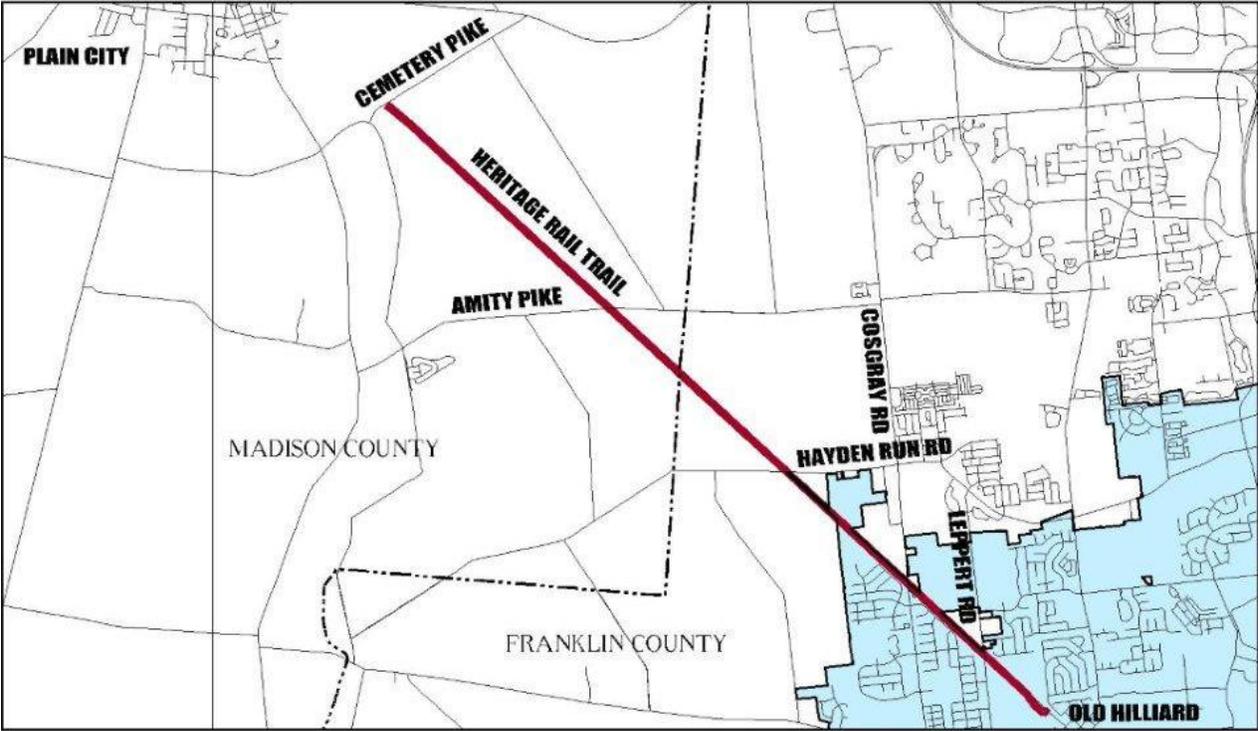


Figure 1 - Location Map

Aerial photographs of the Heritage Rail Trail street crossings within Franklin County are shown below.



Figure 2 – Heritage Rail Trial crossing of Leppert Road



Figure 3 – Heritage Rail Trial crossing of Cosgray Road



Figure 4 – Heritage Rail Trail crossing of Hayden Run Road

Local Character

Over the past 15 years, there has been significant growth in the western part of Hilliard. Streets that were once low volume rural-type roads have been transformed into busy suburban streets. This is particularly true on Leppert Road and Cosgray Road. Hilliard Darby High School and Heritage Middle School are located on Leppert Road south of the Heritage Rail Trail, bringing large volumes of traffic to the street. Hoffman Trails Elementary School is located between Cosgray Road and Leppert Road with direct trail access to the Heritage Rail Trail. While Cosgray Road is predominantly abutted by residential and neighborhood-oriented retail development, the street is a major commuter route between West Broad Street (via Alton & Darby Creek Road) on the west side of Columbus and State Route 161 in Dublin. Homestead Park and the Hilliard Ray Patch Family YMCA are located on Cosgray Road immediately north and less than a ½-mile south, respectively, of the Heritage Rail Trail. The presence of over 1,000 homes and condominium units, several schools, and important community recreational facilities within a 15 minute walk of the Heritage Rail Trail has contributed to the trail’s popularity for bicyclists, walkers, joggers, and rollerblade users of all ages and abilities.

Jurisdiction

Multiple jurisdictions control the four public street crossings along the trail, and two entities own and maintain the trail itself over its 6.1 mile length. Cross-street speed limits vary at the four public streets crossings depending upon the jurisdiction and the Ohio Revised Code (which stipulates the speed limit of roadways). A summary of the jurisdictional boundaries of the trail and the intersecting streets and the corresponding speed limits on the intersecting streets are provided in Table 1 below.

Table 1 - Jurisdictional Boundaries and Speed Limits of Intersecting Public Streets

Trail Segment	Street Crossing	Jurisdiction	Speed Limit
Old Hilliard – Leppert Road		City of Hilliard	
	Leppert Road	North – Franklin County South – City of Hilliard	North – 45 MPH South – 35 MPH
Leppert Road – Cosgray Road		City of Hilliard	
	Cosgray Road	North – Franklin County South – City of Hilliard	North – 55 MPH South – 35 MPH
Cosgray Road – Hayden Run Road		City of Hilliard	
	Hayden Run Road	Franklin County	55 MPH
Hayden Run Road – Amity Pike		Metro Parks	
	Amity Pike	Madison County	55 MPH
Amity Pike – Cemetery Pike		Metro Parks	

Future Regional Pathway Connections

The Heritage Rail Trail currently connects to Hilliard Municipal Park via a north/south path connection through the Hoffman Farms subdivision between Cosgray Road and Leppert Road. Various public and private pathways connect Hilliard Municipal Park to neighborhoods on the south side of Hilliard. The City of Hilliard is currently working with the City of Columbus to design and construct an east/west trail along Frazell Road to connect the Hilliard pathway system to Frank’s Park in Columbus. Construction of this path, along with other pathways in Columbus to the south along Clover Groff Ditch, will complete a continuous pathway system to Battelle Darby Metro Park in southwestern Franklin County. These connections may be complete within the next few years. With the last section of the Ohio to Erie Trail recently completed between Cincinnati and Battelle Darby Metro Park, it is likely that cyclists will soon be able to ride from the Heritage Rail Trail to the Ohio River.

There are several mid-term improvements planned to extend the Heritage Rail Trail:

- Metro Parks is working to extend the Heritage Rail Trail to the northwest to Plain City.
- The City of Hilliard is working to extend the Heritage Rail Trail to the southeast to the intersection of Leap Road and Scioto Darby Road.

Long term improvements which will provide even greater regional connectivity to other communities, parks, and public spaces include the following:

- The City of Columbus Department of Recreation and Parks is working to develop a trail system along the Scioto River; a 2.3 mile path along Scioto Darby Road in Columbus and unincorporated areas of Franklin County would link the Heritage Rail Trail to the Scioto River, which will connect from Dublin to downtown Columbus.
- The Hilliard Comprehensive Plan, which was adopted by Hilliard City Council in October 2011, identifies a new future east/west pathway connection from Hilliard Municipal Park to Prairie Oaks Metro Park, located along the Big Darby Creek in Brown Township, west of Hilliard.

While these pathway connections may not be constructed for a decade or more, they will provide important links to the Heritage Rail Trail in the future and will solidify the trail's regional importance as a key transportation link.

Safety Concerns

As vehicle traffic volumes in western Hilliard have increased and the volume of pedestrian and bicycle traffic on the Heritage Rail Trail have increased, safety concerns related to the public street crossings have arisen. During peak periods, pedestrians and bicyclists have difficulty finding adequate gaps in traffic to safely cross the street in a reasonable amount of time. Vehicles rarely yield to pedestrians at the trail crossing, and as a result path users routinely experience multiple minute delays. These unacceptable levels of delay discourage use of the trail during peak hours and can be a contributing factor to risky crossing behavior by some path users.

Vehicle Data Collection

In the fall of 2011, the City of Hilliard Engineering Division staff and Franklin County Engineer's Office (FCEO) Traffic Engineering staff met to discuss the safety concerns and to develop a plan to collect data to document existing conditions on the public streets and on the trail.

FCEO collected vehicle data at the following locations in September 2011:

- Cosgray Road, north and south of the trail crossing
- Hayden Run Road, west of the trail crossing

FCEO had collected vehicle data on Leppert Road in March/April 2011, so this recent data was used as part of study. Figure 6 shows the location of the count locations on the public streets.

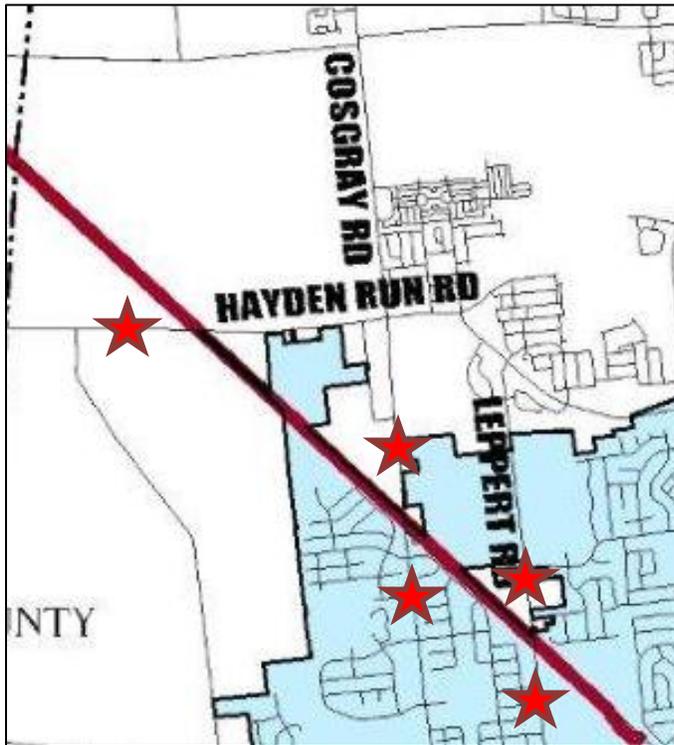


Figure 5 - Vehicle Count Location Map

A summary of the vehicle count data is provided in Tables 2 – 4 below. The vehicle count data is provided in Appendix A of this report.

In addition to speed and volume, various traffic statistics were derived from the count. Key statistics include “85th percentile speed” and “headway”.

The *85th percentile speed* is the speed at which 85% of the traffic is traveling. The 85th percentile speed is the dominant factor in establishing posted speed limits.

The *headway* is the difference between the time when the front of a vehicle arrives at a point on the street and the time the front of the next vehicle arrives at the same point (in seconds).

Table 2 - Leppert Road Vehicle Count Data Summary

Street:	Leppert Road			
Date:	3/31/2011 - 4/1/2011			
Location:	South of Davidson Rd		South of Schoolway Dr	
Jurisdiction:	FCEO		Hilliard	
Speed Limit:	45 MPH (posted)		35 MPH (statutory & posted)	
Direction:	SB	NB	SB	NB
AADT (veh/day):	2233	2190	2301	2220
85th %ile speed (mph):	53	49	45	43
Average Headway during peak hour (sec):	9.2	8.7	8.5	9.1

Table 3 - Cosgray Road Vehicle Count Data Summary

Street:	Cosgray Road			
Date:	9/15/2011 - 9/19/2011			
Location:	South of Homestead Park		South of Hoffman Farms Dr	
Jurisdiction:	FCEO		Hilliard	
Speed Limit:	55 MPH (statutory & unposted)*		35 MPH (statutory & posted)	
Direction:	SB	NB	SB	NB
AADT (veh/day):	3999	3901	3915	3817
85th %ile speed (mph):	49	50	51	55
Average Headway during peak hour (sec):	4.6	6.0	5.1	6.6

* Note: speed limit is posted 45 MPH to the north in Columbus; an unposted statutory speed of 55 MPH is in effect in this section.

Table 4 - Hayden Run Road Vehicle Count Data Summary

Street:	Hayden Run Road	
Date:	9/15/2011 - 9/19/2011	
Location:	West of Heritage Rail Trail	
Jurisdiction:	FCEO	
Speed Limit:	55 MPH (statutory & unposted)	
Direction:	WB	EB
AADT (veh/day):	1033	945
85th %ile speed (mph):	65	67
Average Headway during peak hour (sec):	14.0	17.0

Pedestrian/Bicycle Data Collection

Data collection on a multi-use trail is challenging to obtain because trail use is variable and unpredictable. Weather conditions impact trail use dramatically; therefore, in order to accurately obtain a good representation of the number of users on a trail, it is important to collect data over multiple days and look at weather conditions concurrently.

Because collecting bike and pedestrian data over many days and times can be very time consuming, the City of Hilliard borrowed a machine counter from the Mid-Ohio Regional Planning Commission (MORPC). The machine counter used is the Trail Master TM1550 Active Infrared Trail Monitor. The unit works by installing an infrared transmitter device across from a monitor, which receives the infrared signal. A count is registered when there is a break in the infrared beam.

Pedestrian and bicycle count data was collected for a total of three weeks from Tuesday, March 13 – Tuesday, April 3, 2012. In March 2012, central Ohio experienced unseasonably warm weather with three consecutive days (Tuesday, March 20 – Thursday, March 22) with record high temperatures in the low 80s. Additionally, two weekend days (Saturday, March 17 and Sunday, April 1) had partly sunny or mixed weather conditions with high temperatures in the 70s. These nice weather periods allowed for some optimal conditions for obtaining pedestrian and bicycle counts on the Heritage Rail Trail.

On a typical nice weekday, there are between 600 – 900 users of the Heritage Rail Trail. The peak usage times fall between 5:00 PM and 8:00 PM, and there are between 90 and 150 users per hour during these peak times.

On a typical nice weekend, there are between 1,000 – 1,500 users of the Heritage Rail Trail. Peak times vary and are more spread out throughout the day. During the Spring of 2012, the weekend peak periods typically fell between 11:00 AM and 5:00 PM; however, it is expected that this time period would shift earlier in the day during the warmer summer months. Over a seven to eight hour period, there are between 90 and 195 users per hour on the Heritage Rail Trail.

The detailed pedestrian/bicycle count data and information on the methods used to verify the count data are provided in Appendix B.

Safety Analysis

Numerous factors impact the safety and perceived safety of path users at each crossing. These factors include:

1. Speed of vehicular traffic
2. Volume of vehicular traffic

3. Gaps in vehicular traffic
4. Delay experienced by trail users
5. Visibility of oncoming traffic to trail users
6. Visibility of trail users to approaching vehicular traffic
7. Yielding behavior of motorists

Vehicular Traffic: Speed, Volume, and Gaps

The speed and volume of vehicular traffic and the available gaps in traffic are closely related in the evaluation of pedestrian/bicycle safety. A high speed crossing is not necessarily unsafe. A trail crossing of a 55 MPH rural roadway is very common, and these crossings are usually considered safe because traffic volumes are low, making it easy for trail users to find available gaps to cross. However, when vehicular volumes increase during peak periods and speeds are moderate to high, crossings become more challenging because available gaps are minimized. Key concerns are:

- It may be difficult to find gaps concurrently in both directions of traffic
- The time to cross the street may be greater than the average available gap
- Groups of trail users, especially those with children, typically try to cross together, which requires more time to cross (larger gaps)
- It is hard to judge the speed on oncoming traffic
- As trail users experience more delay at the crossing to find gaps in traffic, there is a tendency of the trail user to become impatient and takes risks to cross (e.g. dart across the street in an insufficient gap in traffic)

Based on the vehicular data obtained in the fall of 2011, the crossings of Leppert Road and Cosgray Road are of primary importance in terms of safety. While traffic on Hayden Run Road has the highest speeds, the volume of traffic is (currently) sufficiently low enough to allow trail users to easily find gaps in traffic and cross the street with minimal delay. For these reasons, the remainder of this report will focus on improving pedestrian safety at the Leppert Road and Cosgray Road crossings. A summary of the vehicular data obtained and what it means in terms of pedestrian/bicycle safety is summarized below.

Leppert Road Crossing

Volume of vehicular traffic at crossing = ~4,500 vehicles per day

- Low to moderate vehicular volume

85th percentile speed at crossing = ~ 48 MPH

- Moderate to high vehicular speed

Average Headway during peak hour = 8.5 seconds – 9.2 seconds

(Headway is the time it takes for the front of two consecutive cars to pass a fixed point)

- Using a 3.5 feet/second walking speed, the time for a pedestrian to cross is approximately 8.5 seconds, which means that **during peak hours, slower moving users (e.g. users who may be elderly, very young, or who have mobility impairments) likely have more delay waiting for a sufficient gap to accommodate their slower crossing speeds.**

Cosgray Road Crossing

Volume of vehicular traffic at crossing = ~7,900 vehicles per day

- Moderate vehicular volume

85th percentile speed at crossing = ~51 MPH

- Moderate to high vehicular speed

Average Headway during peak hour = 4.6 seconds – 6.6 seconds

(Headway is the time it takes for the front of two consecutive cars to pass a fixed point)

- Using a 3.5 feet/second walking speed, the time for a pedestrian to cross is approximately 7.5 seconds, which means that **during peak hours, most types of users have a difficult time finding gaps in traffic**, resulting in excessive delay to cross or users exhibiting unsafe behavior to cross

When traffic volumes are low, it is relatively easy for trail users to find gaps in traffic to cross, so they do not need to rely on vehicles yielding to safely cross the street in a reasonable period of time. However, if traffic volumes are high and gaps are small, as they are in peak hours on Cosgray Road and Leppert Road, trail users may wait several minutes to find a gap in both directions of traffic unless a motorist yields to the trail user. Because trail users on the Heritage Rail Trail will continue to rely on motorists yielding to cross the busier streets at peak hours, it is important to also evaluate the visibility of trail users to motorists. Motorists need to be able to identify that there are trail users waiting to cross the street a sufficient distance back from the crossing in order to slow down and yield to them safely.

Visibility: Vehicles to Trail Users and Trail Users to Vehicles

In order for a trail user to safely cross a street, they need to have a clear and unobstructed view of oncoming traffic prior to and at the crossing. The higher the speed of vehicular traffic and the slower the speed of the trail user, the greater distance the trail user needs to be able to see to adequately judge gaps in traffic to determine when it is safe to cross.

For example, a car driving at 50 mph travels about 73.5 feet per second. A slower moving pedestrian needs approximately 10 seconds to complete a crossing (8 seconds to cross the street and 2 seconds for decision time). The site distance required would be 735 feet.

It is important to not only look at sight distance at the actual crossing but also in advance of the crossing so that users can stop a safe distance away from the travel lane. This is particularly true for cyclists and groups with small children because they require more space to queue and more time to start again than a single pedestrian. The more time that trail users have to see oncoming traffic and judge the gaps, the safer the crossing will be.

Contrary to popular belief (and past practices at trail crossings), it is not considered good practice to place visual obstructions at street crossings. This has been done to try to force bicyclists to come to a complete stop at a crossing. This practice reduces a vulnerable trail user's visibility and requires trail users to stop closer to the travel lane in order to see approach traffic at a distance. This results in a less safe, not a safer, crossing.

The key factors that impact visibility of vehicles to trail users along the Heritage Rail Trail are:

- Horizontal roadway alignment
- Landscaping elements, including mounding and plant material
- Signs

In addition to the above items, an additional factor that impacts visibility of a trail user to a motorist is:

- Visual “clutter” behind the trail user at the crossing location that makes it difficult for a motorist to identify a trail user that is waiting to cross

When motorists see pedestrians and bicyclists near the street, they tend to slow down and pay closer attention because they may be unsure what the pedestrian/cyclist is going to do. Reducing visual clutter near the crossing makes trail users “stand out” more to motorists, providing an important safety cue.

At the Hayden Run Road crossing, the roadway is straight, all landscaping is located outside the public right-of-way, and there are no deep ditches that can effect sign placement. All these factors allow for an unobstructed view of oncoming traffic by trail users. Because traffic volumes are low on Hayden Run Road, the need to motorists to see trail users in order to yield is not critical. At the Leppert Road and Cosgray Road crossings, there are factors that impact visibility as summarized below.

Leppert Road Crossing

The Leppert Road crossing is a two-lane diagonal crossing of approximately 30 feet. Leppert Road runs straight in a north/south direction and the trail crosses the street at a 50 degree angle. Short landscape mounds are located at three of the four corners of this intersection with their slopes beginning 10' to 20' from the pavement edge. Fortunately there is minimal landscaping planted on the mounds so they do not present a significant challenge to visibility; however, removing the mounds would dramatically improve visibility for the trail user. A photograph of the Leppert Road crossing is shown in Figure 6.



Figure 6 - View of the Heritage Rail Trail crossing at Leppert Road looking southeast from the west side of the street

Report Note: All photographs in this report were taken in February 2012, depicting visibility conditions without foliage. During the summer months, when the trail typically experiences the most use, trees and plants are in full bloom, resulting in reduced visibility.

Visibility of Vehicles to Trail Users

When trail users are standing on the east side of Leppert Road to cross, visibility is clear to the north and partially clear to the south as shown below. The front porch of the house on the southeast corner of the trail/street intersection is somewhat distracting depending on how far back from the street the trail user stops to cross.



Figure 7 - View from the east side of Leppert Road looking north



Figure 8 - View from the east side of Leppert Road looking south

When trail users are standing on the west side of Leppert Road to cross, visibility to the north is dramatically impacted by a tree row on the west side of the street as shown in Figure 9. Trail users need to move almost to the edge of the pavement in order to see oncoming southbound vehicles. The view looking north when standing at the edge of the pavement is shown in Figure 10. Additionally, two signs are located north of the crossing, and their placements may create a visual distraction.



Figure 9 - View from the west side of Leppert Road looking north at the top of the trail slope



Figure 10 - View from the west side of Leppert Road looking north at the edge of the street

The vertical profile of the Heritage Rail Trail slopes downward as it approaches Leppert Road. This slope in the last ten to twenty feet in advance of the street complicates the crossing for bicyclists, especially children or less experienced riders, because cyclists tend to roll toward the street while waiting to cross.

This combination of moderately obstructed sight lines and a sloped crossing creates a challenge, especially for cyclists. If a cyclist stops at the top of slope where they are more stable, they cannot see oncoming traffic. If the cyclist tries to move closer to the street, they are forced to stop on an incline. If the cyclist moves all the way down to the bottom of the slope, their front wheel is nearly in the street.

Visibility to the south, when waiting on the west side of Leppert Road, is reasonably clear. The utility poles on the west side of the road are somewhat visually distracting, but otherwise, the view is clear as shown in Figure 11.



Figure 11 - View from the west side of Leppert Road looking south

Visibility of Trail Users to Motorists

The distance required for a vehicle traveling 45 MPH to identify trail user waiting to cross the street and come to a stop (stopping sight distance) is 360 feet. Figure 12 shows the view of the Heritage Trail crossing from a northbound vehicle approximately 300 feet from the crossing. Depending on where a trail user is standing, one of the wooden utility poles on the west side of

Leppert Road could block the view of a pedestrian to an oncoming vehicle. The large trees located behind the trail user have a tendency to cause a trail user to blend in with the background, especially if the trail user is wearing neutral-colored clothing.



Figure 12 - View of the trail crossing (at 300 feet) from a vehicle traveling northbound on Leppert Road

Figure 13 shows the view of the trail crossing from a southbound vehicle approximately 350 feet in advance of the crossing. The large tree row beneath the utility poles on the west side of Leppert Road and the landscape mound located at the northwest corner of the street/trail intersection almost completely obscures the visibility of a trail user unless the user is waiting right on the edge of the street.



Figure 13 - View of the trail crossing (at 350 feet) from a vehicle traveling southbound on Leppert Road

Cosgray Road Crossing

The Cosgray Road crossing is a two-lane skewed crossing of approximately 26 feet. South of the trail crossing, Cosgray Road runs in a straight north/south direction; north of the trail crossing, there is a horizontal curve in the roadway. The trail intersects Cosgray Road at a 50 degree angle on the east; the trail was constructed to intersect Cosgray Road perpendicularly on the west side. Medium height landscape mounds are located at three of the four corners of this intersection. The slopes of these mounds begin 10' to 12' from the pavement edge, and large evergreen trees are planted on each of the mounds. As discussed below, the height and horizontal offset of the mounds and the height of the plant material on top of the mounds dramatically impacts visibility of the Heritage Rail Trail crossing at Cosgray Road. A photograph of the Cosgray Road crossing is shown in Figure 14.



Figure 14 - View of the Heritage Rail Trail crossing at Cosgray Road looking northwest from the east side of the street

Visibility of Vehicles to Trail Users

When trail users are standing on the east side of Cosgray Road to cross at a location near the edge of the street, visibility is reasonably clear to the north; however, trail users waiting further back from the street find that the fencing and guardrail around the private utility facilities are somewhat visually distracting as shown in Figure 15.



Figure 15 – View from the east side of Cosgray Road looking north

When looking south from the east side, the view is clear as shown in Figure 16. The landscape mound on the southeast corner encroaches slightly on the right-of-way, but fortunately the straight roadway alignment allows for good visibility.



Figure 16 – View from the east side of Cosgray Road looking south

Trail users waiting to cross Cosgray Road on the west side of the street must wait close to the street in order to see approach traffic to the north. The landscape mound at the northwest quadrant, the large evergreen tree on top of the mound, the horizontal curvature of the street, and the placement of two signs near the street edge dramatically impact the visibility of oncoming traffic to trail users as shown in Figure 17.



Figure 17 – View from the west side of Cosgray Road looking north

Trail users waiting on the west side of Cosgray Road have a clear view of approach traffic to the south due to the lack of landscaping at the southwest quadrant and straight street alignment as shown in Figure 18.



Figure 18 – View from the west side of Cosgray Road looking south

Visibility of Trail Users to Motorists

Because speeds are higher on Cosgray Road than on Leppert Road, it takes longer for a vehicle to identify and stop for a trail user, so good visibility at a greater distance is required. The stopping sight distance for a vehicle traveling 50 MPH is 425 feet. In the northbound direction, the visual “clutter” on the east side (landscape mounds and trees in front of and behind the trail user and the large AEP poles with surrounding fencing) may make it challenging for a motorist to identify a waiting trail user, especially if the trail user is wearing neutral-colored clothing. The view for northbound traffic is shown in Figure 19.



Figure 19 -- View of the trail crossing (at 400 feet) from a vehicle traveling northbound on Cosgray Road

Similar challenges are presented to the southbound motorist observing trail users on either side, and they are exacerbated by the horizontal curvature of the street as shown in Figure 20.



Figure 20 – View of the trail crossing (at 400 feet) from a vehicle traveling southbound on Cosgray Road

Yielding Behavior of Motorists

At the public street crossings along the Heritage Rail Trail, motorists typically do not yield to trail users waiting to cross the street. During many hours of a given day, trail users can easily cross the street because there are sufficient gaps in traffic to permit a quick and safe crossing. However, during the peak hours it has become increasingly difficult for trail users to cross Leppert Road and Cosgray Road unless a motorists yields to them because of the lack of gaps in traffic.

There are some infrequent instances where a car in one direction may yield; however, rarely does a car traveling in the opposite direction yield at the same time. Since the street crossings are not divided with a refuge island in the middle of the crossing, pedestrians must rely on traffic to yield in both directions in order to cross the street.

In fairness to motorists, the trail users do have the stop condition, and motorists have the right-of-way, unless a trail user is in the crosswalk. While signage is in place to alert motorists to the crossing, there is no specific guidance indicating that motorists should yield. Furthermore, sometimes it is difficult to see a waiting trail user until it is too late to stop without risking a rear end collision. In general, motorists tend to be unsure if they are supposed to yield or not; most do not.

From a trail user's perspective, a motorist not yielding to them only presents a problem during heavy traffic periods. During peak periods, though, some trail users, especially the elderly or groups including children, may have to wait several minutes to cross the street if no one yields to them.

To improve safety and the overall trail users' experience on the Heritage Rail Trail, it may be beneficial to make improvements that increase the motorist yielding rate during the times when it is needed the most. Finding the balance between providing the appropriate amount of vehicle control during 2 or 3 hours a day (to assist trail users) and not overburdening motorists the other 21 or 22 hours of the day (when trail users can easily cross) is essential.

Safety Countermeasures

There are a variety of countermeasures that can be implemented to improve safety at trail crossings. Some countermeasures are easy to implement and at a relatively low cost; others require more time and money to implement. The realized benefit to safety is not necessarily proportional to the amount of money spent. It is important to balance the needs of both motorists and trail users. An unbalanced approach to safety, placing the needs of one mode

over another when not justified, can lead to a less safe situation, a general disregard for traffic control devices, and frustration for both motorists and trail users.

Each location is unique and should be evaluated independently. There is no one-size-fits-all solution, and care should be taken to use engineering judgment to evaluate each crossing.

A list of safety countermeasures for the Leppert Road and Cosgray Road crossings that have been considered are provided below. A brief description of each countermeasure and whether or not it is being recommended is included. They are listed in order from low cost to high cost.

1. *Improve site distance by modifying existing signing.* Existing signs located near the crossings should be raised or moved back from the street (or both) to avoid blocking visibility of oncoming traffic or trail users. **Recommended.**
2. *Improve crosswalk signing and pavement marking to make it more visible.* Replace the existing crosswalk signs using fluorescent yellow green sheeting and an updated warning sign for a multi-use path. **Recommended.**
3. *Improve site distance by relocating landscaping.* Site lines should be clear in all directions at the crossing locations allowing trail users to see oncoming traffic without the need to wait at the edge of the street. Background visual “clutter” should be removed to give approach vehicles a clear view of waiting trail users. A decorative fence could be installed to clearly define the right-of-way with any and all landscaping behind the fence. **Recommended.**
4. *Add signing and pavement marking to communicate to motorists the need to yield to path users.* If the desire is to increase yielding of motorists to pedestrians, this should be communicated to motorists by installing advance yield signs and markings. **Recommended.**
5. *Provide a clearly defined, flat, and wider “staging area” for waiting trail users that is visible to motorists.* To give groups of trail users a place to wait to cross without obstructing the pathway for trail users in the other direction, the path could be widened on the right side of each approach. The area should be flat so that bicyclists (especially children) can wait without rolling toward the street. The alignment of the waiting area should encourage bicyclists slow or stop to judge gaps in traffic and to cross perpendicularly to the street. **Recommended.**
6. *Change the character of the street in advance of the crossing to encourage slower vehicle speeds.* In the long term, both Cosgray Road and Leppert Road will likely be modified to include a more urban street design, which should include curbs and pedestrian refuge islands. A short term lower cost alternative could include the installation of curbing along the existing roadway to signify to motorists that the road

character is changing without modifying the rural-type open ditch drainage and street profile.

7. *Install street lighting at the trail crossing to improve visibility.* While the trail is not used much during nighttime hours, it is important for the crossings to be well lit so that motorists are aware of the crossing during all times of the day. In the winter months it would not be uncommon for trail users to be on the path at 7:00 AM or 6:00 PM when it is dark and motorists (and some bicyclists) are going to or coming from work.

Recommended.

8. *Install flashing yellow crosswalk beacons.* Some communities use “always on” flashing lights to make crosswalks more visible. While these types of crossings are more visible than crossings with standard signs alone, studies have shown that they are not very effective in getting motorists to yield to pedestrians. **Not Recommended.**
9. *Install a pedestrian actuated flashing crosswalk beacon.* There are a variety of different types of pedestrian-activated flashing crosswalk beacons. A new type of flashing beacon, called the Rectangular Rapid Flashing Beacons (RRFB), has proven to be reasonably effective at increasing the yield rate of motorists at crosswalks. The RRFB combines a standard crosswalks warning sign assembly with an extremely bright LED light that flashes in an alternating and irregular pattern (similar to a strobe light used on police car). The flashing light is actuated by a pedestrian so it flashes for a predetermined time when a pedestrian pushes a button. **Recommended.**
10. *Construct a pedestrian refuge island.* The installation of a pedestrian refuge island enhances pedestrian safety dramatically because it allows a pedestrian to cross one direction of traffic at a time. Additionally, the introduction of a raised and curbed median, when properly signed and marked, tends to reduce vehicle speeds. Because a pedestrian median island results in the need to widen the roadway, right-of-way constraints need to be considered. It may be possible to add a pedestrian refuge island at the Cosgray Road and/or Leppert Road crossings prior to the full 4/5-lane long term improvement. The feasibility of this installation and right-of-way impacts should be explored. **Short Term: To Be Evaluated; Long Term: Recommended.**
11. *Install a pedestrian hybrid beacon.* One type of pedestrian hybrid beacon, known as a HAWK, has been proven to be very effective at increasing the yield rate of motorists at a crosswalk because it utilizes a red light indication for motorists. While HAWKs are new to Ohio and would require some education, the presence of a red light (similar to a railroad crossing flashing red light) combined with WALK and DON'T WALK pedestrian signal head for trail users provides makes them fairly intuitive to motorists and pedestrians. The disadvantage of using a HAWK for a trail crossing is that the pedestrian signals essentially make it illegal for trail users to cross the trail without pushing the button. In situations where yielding is only necessary during certain times of the day, the HAWK may be “overkill” and would require motorists to yield on a red light when trail users can easily cross with gaps in traffic. Note: the Ohio Manual of Uniform Traffic

Control devices provides guidance on when a pedestrian hybrid beacon should be considered, based solely on vehicle and pedestrian/bike volume; the Cosgray Road crossing meets the minimum volume requirements, but the Leppert Road crossing does not. **Not Recommended.**

12. *Install a full traffic signal.* In order to install a full traffic signal, the intersection is required to meet certain minimum threshold volumes because of the impact a full traffic signal has on capacity, safety, delay, and operation of the overall street network of a community. An intersection rarely meets the minimum pedestrian volume warrant unless it is located in a densely populated urban environment. Neither the Cosgray Road nor the Leppert Road crossings meet the minimum pedestrian volume warrant requirements, and installation of a full traffic signal at a trail crossing would be inappropriate. **Not Recommended.**

Conclusions

The Heritage Rail Trail has become increasingly popular with a variety of path users, particularly in recent years as the trail has been extended northwest toward Plain City and new development has occurred adjacent to the path. More than a recreational path for local residents, it has become a means of transportation for individuals and families that live in Hilliard and an attraction that brings visitors, predominantly cyclists, to the City. Future trail connections of the Heritage Rail Trail are planned to Battelle Darby Metro Park and to other places beyond central Ohio (via the Ohio to Erie Trail). With these connections, Hilliard anticipates more long distance cyclists will use the trail to travel throughout the region and the state. While trail extensions are a priority, maintaining the existing trail as a safe and comfortable facility for all users ensures that the trail will continue to contribute to the social and economic well-being of Hilliard and northwestern Franklin County.

While traffic volumes have increased on the area streets over the past decade, vehicle speeds have not decreased as would be desired in an area that is slowly transitioning from a rural to suburban environment. The character of many streets in western Hilliard still have a more rural feel (open ditch drainage, no curbs, no street lighting), which tends to encourage faster speeds. This combination of increased trail use, increased vehicle traffic volumes, and moderate to high speed of traffic has resulted in difficulty for trail users to find adequate gaps in traffic on Leppert Road and Cosgray Road during peak hours. These problems will need to be addressed to preserve the trail's attractiveness, encourage a more healthy and active community, and encourage growth and extension of the Heritage Rail Trail beyond the City.

The City of Hilliard should implement safety enhancements at the Leppert Road and Cosgray Road crossings to improve visibility, reduce vehicle speeds, and encourage yielding of motorists to trail users when vehicle traffic volumes are heavy.

During non-peak periods, trail users can easily find gaps in traffic; therefore, full signalization or installation of a pedestrian hybrid beacon (HAWK) would be inappropriate and too restrictive for motorists and trail users at this time.

Recommendations

The following recommendations are presented for the Heritage Rail Trail crossings of Leppert Road and Cosgray Road.

Short Term

1. Bring signs into compliance with the current version of the OMUTCD. Vertical and horizontal offsets of signs should be increased to improve visibility.
2. Add advance signing and pavement marking to signify that a trail crossing is ahead and that motorists should yield to trail users.
3. Survey and dedicate the street right-of-way along the trail in accordance with the Hilliard Thoroughfare Plan.
4. Install decorative fencing to clearly define the right-of-way line and clear zone edge. The trail-side edge of the fence should include street name signage to notify trail users what street they are crossing.
5. Remove all landscape mounds and plantings within the right-of-way and replant landscaping further back from the street edge and outside all site triangles.

A plan view schematic drawing that depicts these short term recommended improvements is provided in Appendix C (Option A).

Medium Term

1. Install a pedestrian actuated (or motion sensor) Rectangular Rapid Flashing Beacon (RRFB). Site distance should be evaluated to determine whether one side-mounted beacon is appropriate or whether the RRFB should be two-sided or mast arm mounted to increase visibility. Care should be made to situate the sign posts so they do not obstruct visibility of oncoming traffic or obscure waiting trail users.
2. Install downward-directed lighting at the crossing to improve pedestrian visibility.

3. Realign and widen the trail at the street crossing to provide a more perpendicular street crossing and a wider staging area for trail users on the right side of each approach.
4. Add curbing along the street edge approximately 400' to 500' in advance of the trail crossing. This work will require either coordination/permitting by the Franklin County Engineer's Office or annexation of street right-of-way from Franklin County to the City of Hilliard north of the trail.
5. Work with private utility companies to modify the fencing and/or guardrail surrounding their facilities at the northeast corner of the trail crossing and Cosgray Road to reduce visual background "clutter" and improve visibility to the north on Cosgray Road.
6. Evaluate the feasibility of constructing a pedestrian refuge island to provide a two-stage divided crossing of the 2-lane roadway.

A plan view schematic drawing that depicts these medium term recommended improvements is provided in Appendix C (Option B).

Long Term

1. Provide a pedestrian refuge island when the street is reconstructed to 4/5 lanes to provide a two-stage divided crossing.
2. Evaluate the effectiveness of the RRFB in terms of pedestrian safety, delay, and yielding behavior. Make changes, if necessary, based on current-day recommendations and engineering tools.

Appendix A
Vehicle Traffic Counts
on Leppert Road, Cosgray Road, and Hayden Run Road

**Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Norwich Township
Street: Leppert Rd - S of Davidson Rd**

A study of vehicle traffic was conducted with HI-STAR unit number 4758. The study was done in the NB lane at Leppert Rd - S of Davidson Rd in Norwich Township, OH in Franklin county. The study began on 03-31-11 at 12:00 PM and concluded on 04-01-11 at 12:00 PM, lasting a total of 24.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 2190 vehicles passed through the location with a peak volume of 102 on 04-01-11 at [07:15-07:30] and a minimum volume of 0 on 03-31-11 at [23:45-00:00]. The AADT count for this study was 2,190.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 40 - 45 MPH range or lower. The average speed for all classified vehicles was 42 MPH with 11.07% vehicles exceeding the posted speed of 45 MPH. The HI-STAR found 1.38 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 40MPH and the 85th percentile was 49.07 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to	to	to	to	to	to	to	to	to				
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
0	9	9	9	46	157	470	723	448	164	40	13	8	4	4				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 2005 which represents 95 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 29 which represents 1 percent of the total classified vehicles. The number of Trucks and Busses in the study was 29 which represents 1 percent of the total classified vehicles. The number of Tractor Trailors in the study was 41 which represents 2 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
2005	29	29	41	0														

CHART 2

HEADWAY

During the peak traffic period, on 04-01-11 at [07:15-07:30] the average headway between vehicles was 8.738 seconds. During the slowest traffic period, on 03-31-11 at [23:45-00:00] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 35.00 and 68.00 degrees F. The HI-STAR determined that the roadway surface was Dry 100.00% of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4758 Street: Leppert Rd - S of Davidson Rd State: OH City: Norwich Township County: Franklin	Begin: 03-31-11 12:00 PM Lane: NB Oper: MEW Posted: 45 AADT Factor: 1	End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2190 AADT Count: 2,190		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,03-31-11				
[12:00-12:15]	22	44 MPH	50 F	Dry
[12:15-12:30]	22	45 MPH	52 F	Dry
[12:30-12:45]	24	47 MPH	54 F	Dry
[12:45-13:00]	21	43 MPH	54 F	Dry
[13:00-13:15]	28	44 MPH	56 F	Dry
[13:15-13:30]	18	41 MPH	60 F	Dry
[13:30-13:45]	23	45 MPH	60 F	Dry
[13:45-14:00]	25	43 MPH	60 F	Dry
[14:00-14:15]	24	43 MPH	58 F	Dry
[14:15-14:30]	37	42 MPH	56 F	Dry
[14:30-14:45]	38	42 MPH	54 F	Dry
[14:45-15:00]	65	42 MPH	54 F	Dry
[15:00-15:15]	38	43 MPH	52 F	Dry
[15:15-15:30]	39	42 MPH	52 F	Dry
[15:30-15:45]	54	42 MPH	52 F	Dry
[15:45-16:00]	38	41 MPH	52 F	Dry
[16:00-16:15]	42	41 MPH	52 F	Dry
[16:15-16:30]	38	42 MPH	52 F	Dry
[16:30-16:45]	42	45 MPH	52 F	Dry
[16:45-17:00]	44	44 MPH	52 F	Dry
[17:00-17:15]	45	44 MPH	52 F	Dry
[17:15-17:30]	48	40 MPH	52 F	Dry
[17:30-17:45]	35	42 MPH	50 F	Dry
[17:45-18:00]	32	42 MPH	50 F	Dry
[18:00-18:15]	37	43 MPH	50 F	Dry
[18:15-18:30]	37	44 MPH	50 F	Dry
[18:30-18:45]	48	43 MPH	48 F	Dry
[18:45-19:00]	35	43 MPH	48 F	Dry
[19:00-19:15]	23	42 MPH	48 F	Dry
[19:15-19:30]	27	44 MPH	48 F	Dry
[19:30-19:45]	43	40 MPH	46 F	Dry
[19:45-20:00]	32	41 MPH	44 F	Dry
[20:00-20:15]	15	46 MPH	44 F	Dry
[20:15-20:30]	37	42 MPH	42 F	Dry
[20:30-20:45]	13	42 MPH	42 F	Dry
[20:45-21:00]	24	43 MPH	42 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4758 Street: Leppert Rd - S of Davidson Rd State: OH City: Norwich Township County: Franklin	Begin: 03-31-11 12:00 PM Lane: NB Oper: MEW Posted: 45 AADT Factor: 1	End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2190 AADT Count: 2,190		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,03-31-11				
[21:00-21:15]	21	44 MPH	42 F	Dry
[21:15-21:30]	19	39 MPH	42 F	Dry
[21:30-21:45]	10	39 MPH	42 F	Dry
[21:45-22:00]	8	42 MPH	42 F	Dry
[22:00-22:15]	13	44 MPH	42 F	Dry
[22:15-22:30]	3	41 MPH	41 F	Dry
[22:30-22:45]	5	45 MPH	41 F	Dry
[22:45-23:00]	1	42 MPH	39 F	Dry
[23:00-23:15]	2	48 MPH	39 F	Dry
[23:15-23:30]	4	36 MPH	39 F	Dry
[23:30-23:45]	3	44 MPH	39 F	Dry
[23:45-00:00]	0	0 MPH	39 F	Dry
Thu,03-31-11	1302	42 MPH	48 F	
Fri,04-01-11				
[00:00-00:15]	3	41 MPH	39 F	Dry
[00:15-00:30]	0	0 MPH	39 F	Dry
[00:30-00:45]	1	48 MPH	39 F	Dry
[00:45-01:00]	1	42 MPH	37 F	Dry
[01:00-01:15]	0	0 MPH	37 F	Dry
[01:15-01:30]	3	44 MPH	37 F	Dry
[01:30-01:45]	2	30 MPH	37 F	Dry
[01:45-02:00]	2	43 MPH	37 F	Dry
[02:00-02:15]	1	48 MPH	35 F	Dry
[02:15-02:30]	2	40 MPH	35 F	Dry
[02:30-02:45]	0	0 MPH	35 F	Dry
[02:45-03:00]	0	0 MPH	35 F	Dry
[03:00-03:15]	1	62 MPH	35 F	Dry
[03:15-03:30]	2	35 MPH	35 F	Dry
[03:30-03:45]	0	0 MPH	35 F	Dry
[03:45-04:00]	1	38 MPH	35 F	Dry
[04:00-04:15]	1	48 MPH	35 F	Dry
[04:15-04:30]	1	38 MPH	35 F	Dry
[04:30-04:45]	5	41 MPH	35 F	Dry
[04:45-05:00]	2	50 MPH	35 F	Dry
[05:00-05:15]	4	44 MPH	35 F	Dry
[05:15-05:30]	5	52 MPH	35 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4758 Street: Leppert Rd - S of Davidson Rd State: OH City: Norwich Township County: Franklin		Begin: 03-31-11 12:00 PM Lane: NB Oper: MEW Posted: 45 AADT Factor: 1		End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2190 AADT Count: 2,190	
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry	
Fri, 04-01-11					
[05:30-05:45]	7	43 MPH	35 F	Dry	
[05:45-06:00]	3	41 MPH	35 F	Dry	
[06:00-06:15]	12	43 MPH	35 F	Dry	
[06:15-06:30]	13	44 MPH	35 F	Dry	
[06:30-06:45]	20	43 MPH	35 F	Dry	
[06:45-07:00]	36	42 MPH	35 F	Dry	
[07:00-07:15]	44	42 MPH	35 F	Dry	
[07:15-07:30]	102	41 MPH	35 F	Dry	
[07:30-07:45]	70	42 MPH	35 F	Dry	
[07:45-08:00]	59	45 MPH	35 F	Dry	
[08:00-08:15]	54	41 MPH	35 F	Dry	
[08:15-08:30]	41	42 MPH	37 F	Dry	
[08:30-08:45]	55	41 MPH	37 F	Dry	
[08:45-09:00]	70	41 MPH	39 F	Dry	
[09:00-09:15]	53	45 MPH	41 F	Dry	
[09:15-09:30]	19	42 MPH	42 F	Dry	
[09:30-09:45]	15	40 MPH	44 F	Dry	
[09:45-10:00]	20	43 MPH	48 F	Dry	
[10:00-10:15]	21	41 MPH	50 F	Dry	
[10:15-10:30]	25	46 MPH	52 F	Dry	
[10:30-10:45]	18	43 MPH	54 F	Dry	
[10:45-11:00]	12	40 MPH	56 F	Dry	
[11:00-11:15]	9	46 MPH	60 F	Dry	
[11:15-11:30]	27	43 MPH	62 F	Dry	
[11:30-11:45]	28	41 MPH	66 F	Dry	
[11:45-12:00]	18	42 MPH	68 F	Dry	
Fri, 04-01-11					
		888	42 MPH	40 F	
03-31-11 12:00 PM					
		2190	42 MPH	44 F	
04-01-11 12:00 PM					

**Nu-Metrics Traffic Analyzer Study
 Computer Generated Summary Report
 City: Norwich Township
 Street: Leppert Rd - S of Davidson Rd**

A study of vehicle traffic was conducted with HI-STAR unit number 9914. The study was done in the SB lane at Leppert Rd - S of Davidson Rd in Norwich Township, OH in Franklin county. The study began on 03-31-11 at 12:00 PM and concluded on 04-01-11 at 12:00 PM, lasting a total of 24.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 2233 vehicles passed through the location with a peak volume of 97 on 03-31-11 at [17:45-18:00] and a minimum volume of 0 on 04-01-11 at [00:15-00:30]. The AADT count for this study was 2,233.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 45 - 50 MPH range or lower. The average speed for all classified vehicles was 46 MPH with 25.17% vehicles exceeding the posted speed of 45 MPH. The HI-STAR found 2.75 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 45MPH and the 85th percentile was 53.19 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to	to	to										
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
0	7	7	12	21	78	307	549	595	335	137	44	9	5	0				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 1958 which represents 93 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 66 which represents 3 percent of the total classified vehicles. The number of Trucks and Busses in the study was 47 which represents 2 percent of the total classified vehicles. The number of Tractor Trailors in the study was 35 which represents 2 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
1958	66	47	35	0														

CHART 2

HEADWAY

During the peak traffic period, on 03-31-11 at [17:45-18:00] the average headway between vehicles was 9.184 seconds. During the slowest traffic period, on 04-01-11 at [00:15-00:30] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 35.00 and 66.00 degrees F. The HI-STAR determined that the roadway surface was Dry 100.00% of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:9914 Street:Leppert Rd - S of Davidson Rd State:OH City:Norwich Township County:Franklin		Begin: 03-31-11 12:00 PM Lane: SB Oper: MEW Posted: 45 AADT Factor: 1		End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2233 AADT Count: 2,233	
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry	
Thu,03-31-11					
[12:00-12:15]	16	45 MPH	50 F	Dry	
[12:15-12:30]	25	46 MPH	52 F	Dry	
[12:30-12:45]	22	47 MPH	52 F	Dry	
[12:45-13:00]	20	46 MPH	54 F	Dry	
[13:00-13:15]	12	48 MPH	56 F	Dry	
[13:15-13:30]	25	47 MPH	60 F	Dry	
[13:30-13:45]	20	48 MPH	60 F	Dry	
[13:45-14:00]	29	44 MPH	60 F	Dry	
[14:00-14:15]	27	42 MPH	58 F	Dry	
[14:15-14:30]	33	42 MPH	56 F	Dry	
[14:30-14:45]	20	46 MPH	54 F	Dry	
[14:45-15:00]	35	47 MPH	54 F	Dry	
[15:00-15:15]	31	46 MPH	52 F	Dry	
[15:15-15:30]	36	47 MPH	52 F	Dry	
[15:30-15:45]	46	47 MPH	52 F	Dry	
[15:45-16:00]	54	45 MPH	52 F	Dry	
[16:00-16:15]	55	45 MPH	52 F	Dry	
[16:15-16:30]	67	47 MPH	52 F	Dry	
[16:30-16:45]	69	48 MPH	52 F	Dry	
[16:45-17:00]	70	44 MPH	52 F	Dry	
[17:00-17:15]	78	46 MPH	52 F	Dry	
[17:15-17:30]	83	45 MPH	50 F	Dry	
[17:30-17:45]	86	46 MPH	50 F	Dry	
[17:45-18:00]	97	45 MPH	48 F	Dry	
[18:00-18:15]	66	44 MPH	48 F	Dry	
[18:15-18:30]	45	46 MPH	48 F	Dry	
[18:30-18:45]	39	46 MPH	48 F	Dry	
[18:45-19:00]	49	45 MPH	48 F	Dry	
[19:00-19:15]	38	49 MPH	48 F	Dry	
[19:15-19:30]	25	49 MPH	46 F	Dry	
[19:30-19:45]	40	47 MPH	44 F	Dry	
[19:45-20:00]	27	48 MPH	44 F	Dry	
[20:00-20:15]	34	47 MPH	42 F	Dry	
[20:15-20:30]	30	44 MPH	42 F	Dry	
[20:30-20:45]	24	43 MPH	42 F	Dry	
[20:45-21:00]	22	48 MPH	42 F	Dry	

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9914 Street: Leppert Rd - S of Davidson Rd State: OH City: Norwich Township County: Franklin	Begin: 03-31-11 12:00 PM Lane: SB Oper: MEW Posted: 45 AADT Factor: 1	End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2233 AADT Count: 2,233		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,03-31-11				
[21:00-21:15]	17	45 MPH	42 F	Dry
[21:15-21:30]	24	42 MPH	42 F	Dry
[21:30-21:45]	17	45 MPH	42 F	Dry
[21:45-22:00]	6	48 MPH	41 F	Dry
[22:00-22:15]	8	41 MPH	41 F	Dry
[22:15-22:30]	8	44 MPH	39 F	Dry
[22:30-22:45]	8	48 MPH	39 F	Dry
[22:45-23:00]	6	48 MPH	39 F	Dry
[23:00-23:15]	2	33 MPH	39 F	Dry
[23:15-23:30]	4	51 MPH	39 F	Dry
[23:30-23:45]	2	50 MPH	39 F	Dry
[23:45-00:00]	4	47 MPH	39 F	Dry
Thu,03-31-11	1601	46 MPH	48 F	
Fri,04-01-11				
[00:00-00:15]	5	44 MPH	39 F	Dry
[00:15-00:30]	0	0 MPH	37 F	Dry
[00:30-00:45]	3	33 MPH	37 F	Dry
[00:45-01:00]	0	0 MPH	37 F	Dry
[01:00-01:15]	1	0 MPH	37 F	Dry
[01:15-01:30]	3	46 MPH	37 F	Dry
[01:30-01:45]	1	42 MPH	35 F	Dry
[01:45-02:00]	0	0 MPH	35 F	Dry
[02:00-02:15]	1	48 MPH	35 F	Dry
[02:15-02:30]	1	32 MPH	35 F	Dry
[02:30-02:45]	1	62 MPH	35 F	Dry
[02:45-03:00]	1	42 MPH	35 F	Dry
[03:00-03:15]	1	42 MPH	35 F	Dry
[03:15-03:30]	1	32 MPH	35 F	Dry
[03:30-03:45]	0	0 MPH	35 F	Dry
[03:45-04:00]	0	0 MPH	35 F	Dry
[04:00-04:15]	0	0 MPH	35 F	Dry
[04:15-04:30]	0	0 MPH	35 F	Dry
[04:30-04:45]	1	38 MPH	35 F	Dry
[04:45-05:00]	1	38 MPH	35 F	Dry
[05:00-05:15]	1	48 MPH	35 F	Dry
[05:15-05:30]	1	42 MPH	35 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:9914 Street:Leppert Rd - S of Davidson Rd State:OH City:Norwich Township County:Franklin		Begin: 03-31-11 12:00 PM Lane: SB Oper: MEW Posted: 45 AADT Factor: 1		End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2233 AADT Count: 2,233													
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry													
Fri,04-01-11																	
[05:30-05:45]	3	36 MPH	35 F	Dry													
[05:45-06:00]	2	50 MPH	35 F	Dry													
[06:00-06:15]	4	41 MPH	35 F	Dry													
[06:15-06:30]	12	43 MPH	35 F	Dry													
[06:30-06:45]	16	43 MPH	35 F	Dry													
[06:45-07:00]	32	45 MPH	35 F	Dry													
[07:00-07:15]	44	45 MPH	35 F	Dry													
[07:15-07:30]	67	47 MPH	35 F	Dry													
[07:30-07:45]	40	45 MPH	35 F	Dry													
[07:45-08:00]	23	45 MPH	35 F	Dry													
[08:00-08:15]	34	46 MPH	35 F	Dry													
[08:15-08:30]	36	41 MPH	35 F	Dry													
[08:30-08:45]	32	46 MPH	37 F	Dry													
[08:45-09:00]	40	46 MPH	39 F	Dry													
[09:00-09:15]	23	44 MPH	41 F	Dry													
[09:15-09:30]	24	43 MPH	42 F	Dry													
[09:30-09:45]	18	46 MPH	44 F	Dry													
[09:45-10:00]	14	44 MPH	46 F	Dry													
[10:00-10:15]	8	44 MPH	48 F	Dry													
[10:15-10:30]	21	43 MPH	50 F	Dry													
[10:30-10:45]	19	48 MPH	52 F	Dry													
[10:45-11:00]	15	41 MPH	56 F	Dry													
[11:00-11:15]	24	46 MPH	58 F	Dry													
[11:15-11:30]	28	47 MPH	62 F	Dry													
[11:30-11:45]	16	44 MPH	64 F	Dry													
[11:45-12:00]	14	46 MPH	66 F	Dry													
Fri,04-01-11																	
		632	43 MPH	40 F													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">03-31-11 12:00 PM</td> <td style="width: 20%;"></td> </tr> <tr> <td>04-01-11 12:00 PM</td> <td style="text-align: center;">2233</td> <td style="text-align: center;">45 MPH</td> <td style="text-align: center;">44 F</td> <td colspan="2"></td> </tr> </table>						03-31-11 12:00 PM						04-01-11 12:00 PM	2233	45 MPH	44 F		
03-31-11 12:00 PM																	
04-01-11 12:00 PM	2233	45 MPH	44 F														

**Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Hilliard
Street: Leppert Rd - S of Schoolway Dr**

A study of vehicle traffic was conducted with HI-STAR unit number 1885. The study was done in the NB lane at Leppert Rd - S of Schoolway Dr in Hilliard, OH in Franklin county. The study began on 03-31-11 at 12:00 PM and concluded on 04-01-11 at 12:00 PM, lasting a total of 24.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 2220 vehicles passed through the location with a peak volume of 98 on 04-01-11 at [07:15-07:30] and a minimum volume of 0 on 04-01-11 at [01:00-01:15]. The AADT count for this study was 2,220.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 35 - 40 MPH range or lower. The average speed for all classified vehicles was 37 MPH with 24.84% vehicles exceeding the posted speed of 35 MPH. The HI-STAR found 0.53 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 35MPH and the 85th percentile was 42.95 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75					
to	to	to	to	to	to	to	to	to	to	to	to	to	to	to					
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>					
0	7	11	49	190	546	767	348	116	37	7	5	4	1	1					

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 2022 which represents 97 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 21 which represents 1 percent of the total classified vehicles. The number of Trucks and Busses in the study was 34 which represents 2 percent of the total classified vehicles. The number of Tractor Trailors in the study was 12 which represents 1 percent of the total classified vehicles.

<	19	24	36	80															
to	to	to	to	to															
18	23	35	79	>															
2022	21	34	12	0															

CHART 2

HEADWAY

During the peak traffic period, on 04-01-11 at [07:15-07:30] the average headway between vehicles was 9.091 seconds. During the slowest traffic period, on 04-01-11 at [01:00-01:15] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 37.00 and 68.00 degrees F. The HI-STAR determined that the roadway surface was Dry 100.00% of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1885 Street: Leppert Rd - S of Schoolway Dr State: OH City: Hilliard County: Franklin	Begin: 03-31-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2220 AADT Count: 2,220		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,03-31-11				
[12:00-12:15]	21	40 MPH	52 F	Dry
[12:15-12:30]	23	40 MPH	52 F	Dry
[12:30-12:45]	24	39 MPH	54 F	Dry
[12:45-13:00]	18	39 MPH	56 F	Dry
[13:00-13:15]	38	38 MPH	58 F	Dry
[13:15-13:30]	12	40 MPH	62 F	Dry
[13:30-13:45]	22	41 MPH	62 F	Dry
[13:45-14:00]	37	36 MPH	62 F	Dry
[14:00-14:15]	30	35 MPH	60 F	Dry
[14:15-14:30]	45	31 MPH	58 F	Dry
[14:30-14:45]	41	32 MPH	56 F	Dry
[14:45-15:00]	76	32 MPH	56 F	Dry
[15:00-15:15]	42	36 MPH	54 F	Dry
[15:15-15:30]	43	37 MPH	54 F	Dry
[15:30-15:45]	53	37 MPH	54 F	Dry
[15:45-16:00]	38	36 MPH	54 F	Dry
[16:00-16:15]	50	37 MPH	54 F	Dry
[16:15-16:30]	45	38 MPH	54 F	Dry
[16:30-16:45]	51	37 MPH	54 F	Dry
[16:45-17:00]	54	37 MPH	54 F	Dry
[17:00-17:15]	53	36 MPH	52 F	Dry
[17:15-17:30]	49	38 MPH	52 F	Dry
[17:30-17:45]	41	39 MPH	52 F	Dry
[17:45-18:00]	27	37 MPH	52 F	Dry
[18:00-18:15]	39	37 MPH	52 F	Dry
[18:15-18:30]	30	39 MPH	50 F	Dry
[18:30-18:45]	52	38 MPH	50 F	Dry
[18:45-19:00]	35	36 MPH	50 F	Dry
[19:00-19:15]	27	38 MPH	50 F	Dry
[19:15-19:30]	33	37 MPH	48 F	Dry
[19:30-19:45]	39	36 MPH	48 F	Dry
[19:45-20:00]	32	37 MPH	46 F	Dry
[20:00-20:15]	20	35 MPH	44 F	Dry
[20:15-20:30]	36	34 MPH	44 F	Dry
[20:30-20:45]	22	38 MPH	44 F	Dry
[20:45-21:00]	29	39 MPH	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1885 Street: Leppert Rd - S of Schoolway Dr State: OH City: Hilliard County: Franklin	Begin: 03-31-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2220 AADT Count: 2,220		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,03-31-11				
[21:00-21:15]	22	36 MPH	42 F	Dry
[21:15-21:30]	19	36 MPH	42 F	Dry
[21:30-21:45]	11	35 MPH	42 F	Dry
[21:45-22:00]	12	38 MPH	42 F	Dry
[22:00-22:15]	11	38 MPH	42 F	Dry
[22:15-22:30]	5	35 MPH	42 F	Dry
[22:30-22:45]	7	37 MPH	42 F	Dry
[22:45-23:00]	5	36 MPH	42 F	Dry
[23:00-23:15]	2	38 MPH	42 F	Dry
[23:15-23:30]	3	43 MPH	41 F	Dry
[23:30-23:45]	4	35 MPH	41 F	Dry
[23:45-00:00]	3	34 MPH	41 F	Dry
Thu,03-31-11	1431	37 MPH	50 F	
Fri,04-01-11				
[00:00-00:15]	2	33 MPH	39 F	Dry
[00:15-00:30]	2	35 MPH	39 F	Dry
[00:30-00:45]	2	33 MPH	39 F	Dry
[00:45-01:00]	1	38 MPH	39 F	Dry
[01:00-01:15]	0	0 MPH	39 F	Dry
[01:15-01:30]	3	41 MPH	39 F	Dry
[01:30-01:45]	3	34 MPH	39 F	Dry
[01:45-02:00]	1	38 MPH	37 F	Dry
[02:00-02:15]	1	38 MPH	37 F	Dry
[02:15-02:30]	2	40 MPH	37 F	Dry
[02:30-02:45]	1	32 MPH	37 F	Dry
[02:45-03:00]	0	0 MPH	37 F	Dry
[03:00-03:15]	1	52 MPH	37 F	Dry
[03:15-03:30]	1	22 MPH	37 F	Dry
[03:30-03:45]	0	0 MPH	37 F	Dry
[03:45-04:00]	1	32 MPH	37 F	Dry
[04:00-04:15]	1	38 MPH	37 F	Dry
[04:15-04:30]	1	38 MPH	37 F	Dry
[04:30-04:45]	4	40 MPH	37 F	Dry
[04:45-05:00]	2	40 MPH	37 F	Dry
[05:00-05:15]	4	40 MPH	37 F	Dry
[05:15-05:30]	5	42 MPH	37 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry										
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> HI-Star ID: 1885 Street: Leppert Rd - S of Schoolway Dr State: OH City: Hilliard County: Franklin </div> <div> Begin: 03-31-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1 </div> <div> End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2220 AADT Count: 2,220 </div> </div>														
Fri,04-01-11														
[05:30-05:45]	6	37 MPH	37 F	Dry										
[05:45-06:00]	3	34 MPH	37 F	Dry										
[06:00-06:15]	10	36 MPH	37 F	Dry										
[06:15-06:30]	10	40 MPH	37 F	Dry										
[06:30-06:45]	17	40 MPH	37 F	Dry										
[06:45-07:00]	23	38 MPH	37 F	Dry										
[07:00-07:15]	39	33 MPH	37 F	Dry										
[07:15-07:30]	98	33 MPH	37 F	Dry										
[07:30-07:45]	51	33 MPH	37 F	Dry										
[07:45-08:00]	44	36 MPH	37 F	Dry										
[08:00-08:15]	47	37 MPH	37 F	Dry										
[08:15-08:30]	39	40 MPH	39 F	Dry										
[08:30-08:45]	58	37 MPH	39 F	Dry										
[08:45-09:00]	60	38 MPH	42 F	Dry										
[09:00-09:15]	42	39 MPH	42 F	Dry										
[09:15-09:30]	15	39 MPH	44 F	Dry										
[09:30-09:45]	15	37 MPH	48 F	Dry										
[09:45-10:00]	21	37 MPH	50 F	Dry										
[10:00-10:15]	17	40 MPH	50 F	Dry										
[10:15-10:30]	26	38 MPH	52 F	Dry										
[10:30-10:45]	12	40 MPH	56 F	Dry										
[10:45-11:00]	8	35 MPH	58 F	Dry										
[11:00-11:15]	14	39 MPH	62 F	Dry										
[11:15-11:30]	29	37 MPH	64 F	Dry										
[11:30-11:45]	26	36 MPH	66 F	Dry										
[11:45-12:00]	21	38 MPH	68 F	Dry										
Fri,04-01-11	789	37 MPH	42 F											
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">03-31-11 12:00 PM</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 35%;"></td> </tr> <tr> <td>04-01-11 12:00 PM</td> <td style="text-align: center;">2220</td> <td style="text-align: center;">37 MPH</td> <td style="text-align: center;">46 F</td> <td></td> </tr> </table>					03-31-11 12:00 PM					04-01-11 12:00 PM	2220	37 MPH	46 F	
03-31-11 12:00 PM														
04-01-11 12:00 PM	2220	37 MPH	46 F											

**Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Hilliard
Street: Leppert Rd - S of Schoolway Dr**

A study of vehicle traffic was conducted with HI-STAR unit number 5847. The study was done in the SB lane at Leppert Rd - S of Schoolway Dr in Hilliard, OH in Franklin county. The study began on 03-31-11 at 12:00 PM and concluded on 04-01-11 at 12:00 PM, lasting a total of 24.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 2301 vehicles passed through the location with a peak volume of 105 on 04-01-11 at [07:15-07:30] and a minimum volume of 0 on 04-01-11 at [00:15-00:30]. The AADT count for this study was 2,301.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 35 - 40 MPH range or lower. The average speed for all classified vehicles was 39 MPH with 44.87% vehicles exceeding the posted speed of 35 MPH. The HI-STAR found 0.40 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 35MPH and the 85th percentile was 45.51 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to	to	to	to	to	to	to	to	to				
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
0	8	4	51	145	284	750	646	263	79	14	6	3	0	0				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 2137 which represents 95 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 40 which represents 2 percent of the total classified vehicles. The number of Trucks and Busses in the study was 37 which represents 2 percent of the total classified vehicles. The number of Tractor Trailors in the study was 39 which represents 2 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
2137	40	37	39	0														

CHART 2

HEADWAY

During the peak traffic period, on 04-01-11 at [07:15-07:30] the average headway between vehicles was 8.491 seconds. During the slowest traffic period, on 04-01-11 at [00:15-00:30] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 35.00 and 68.00 degrees F. The HI-STAR determined that the roadway surface was Dry 100.00% of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:5847 Street:Leppert Rd - S of Schoolway Dr State:OH City:Hilliard County:Franklin	Begin: 03-31-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2301 AADT Count: 2,301		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry
Thu,03-31-11				
[12:00-12:15]	20	43 MPH	52 F	Dry
[12:15-12:30]	19	41 MPH	52 F	Dry
[12:30-12:45]	26	39 MPH	54 F	Dry
[12:45-13:00]	25	39 MPH	54 F	Dry
[13:00-13:15]	12	41 MPH	58 F	Dry
[13:15-13:30]	19	42 MPH	62 F	Dry
[13:30-13:45]	24	42 MPH	62 F	Dry
[13:45-14:00]	33	40 MPH	62 F	Dry
[14:00-14:15]	32	35 MPH	58 F	Dry
[14:15-14:30]	34	33 MPH	56 F	Dry
[14:30-14:45]	29	31 MPH	56 F	Dry
[14:45-15:00]	31	35 MPH	54 F	Dry
[15:00-15:15]	27	44 MPH	54 F	Dry
[15:15-15:30]	30	40 MPH	54 F	Dry
[15:30-15:45]	39	40 MPH	54 F	Dry
[15:45-16:00]	48	40 MPH	54 F	Dry
[16:00-16:15]	47	41 MPH	54 F	Dry
[16:15-16:30]	63	41 MPH	52 F	Dry
[16:30-16:45]	67	41 MPH	52 F	Dry
[16:45-17:00]	70	40 MPH	52 F	Dry
[17:00-17:15]	61	40 MPH	52 F	Dry
[17:15-17:30]	70	40 MPH	52 F	Dry
[17:30-17:45]	67	40 MPH	52 F	Dry
[17:45-18:00]	87	39 MPH	50 F	Dry
[18:00-18:15]	63	41 MPH	50 F	Dry
[18:15-18:30]	46	41 MPH	50 F	Dry
[18:30-18:45]	37	38 MPH	50 F	Dry
[18:45-19:00]	47	39 MPH	48 F	Dry
[19:00-19:15]	35	41 MPH	48 F	Dry
[19:15-19:30]	21	44 MPH	48 F	Dry
[19:30-19:45]	31	43 MPH	46 F	Dry
[19:45-20:00]	30	40 MPH	46 F	Dry
[20:00-20:15]	31	40 MPH	44 F	Dry
[20:15-20:30]	34	37 MPH	44 F	Dry
[20:30-20:45]	19	39 MPH	42 F	Dry
[20:45-21:00]	24	41 MPH	42 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 5847 Street: Leppert Rd - S of Schoolway Dr State: OH City: Hilliard County: Franklin	Begin: 03-31-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2301 AADT Count: 2,301		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,03-31-11				
[21:00-21:15]	13	42 MPH	42 F	Dry
[21:15-21:30]	21	38 MPH	42 F	Dry
[21:30-21:45]	16	38 MPH	42 F	Dry
[21:45-22:00]	7	42 MPH	42 F	Dry
[22:00-22:15]	5	40 MPH	42 F	Dry
[22:15-22:30]	11	42 MPH	42 F	Dry
[22:30-22:45]	6	38 MPH	42 F	Dry
[22:45-23:00]	4	40 MPH	42 F	Dry
[23:00-23:15]	2	45 MPH	41 F	Dry
[23:15-23:30]	4	42 MPH	41 F	Dry
[23:30-23:45]	3	44 MPH	39 F	Dry
[23:45-00:00]	6	42 MPH	39 F	Dry
Thu,03-31-11	1496	40 MPH	49 F	
Fri,04-01-11				
[00:00-00:15]	3	37 MPH	39 F	Dry
[00:15-00:30]	0	0 MPH	39 F	Dry
[00:30-00:45]	3	41 MPH	39 F	Dry
[00:45-01:00]	0	0 MPH	39 F	Dry
[01:00-01:15]	1	38 MPH	39 F	Dry
[01:15-01:30]	2	40 MPH	37 F	Dry
[01:30-01:45]	0	0 MPH	37 F	Dry
[01:45-02:00]	0	0 MPH	37 F	Dry
[02:00-02:15]	1	42 MPH	37 F	Dry
[02:15-02:30]	1	32 MPH	37 F	Dry
[02:30-02:45]	1	38 MPH	35 F	Dry
[02:45-03:00]	2	40 MPH	35 F	Dry
[03:00-03:15]	0	0 MPH	35 F	Dry
[03:15-03:30]	1	28 MPH	35 F	Dry
[03:30-03:45]	1	38 MPH	35 F	Dry
[03:45-04:00]	0	0 MPH	35 F	Dry
[04:00-04:15]	0	0 MPH	35 F	Dry
[04:15-04:30]	0	0 MPH	35 F	Dry
[04:30-04:45]	2	38 MPH	35 F	Dry
[04:45-05:00]	2	40 MPH	37 F	Dry
[05:00-05:15]	3	41 MPH	37 F	Dry
[05:15-05:30]	0	0 MPH	37 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry										
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> HI-Star ID: 5847 Street: Leppert Rd - S of Schoolway Dr State: OH City: Hilliard County: Franklin </div> <div> Begin: 03-31-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1 </div> <div> End: 04-01-11 12:00 PM Hours: 24.00 Period: 15 Raw Count: 2301 AADT Count: 2,301 </div> </div>														
Fri,04-01-11														
[05:30-05:45]	5	44 MPH	37 F	Dry										
[05:45-06:00]	4	40 MPH	37 F	Dry										
[06:00-06:15]	7	41 MPH	37 F	Dry										
[06:15-06:30]	13	39 MPH	37 F	Dry										
[06:30-06:45]	33	38 MPH	37 F	Dry										
[06:45-07:00]	33	40 MPH	37 F	Dry										
[07:00-07:15]	68	33 MPH	35 F	Dry										
[07:15-07:30]	105	32 MPH	35 F	Dry										
[07:30-07:45]	79	33 MPH	35 F	Dry										
[07:45-08:00]	39	40 MPH	37 F	Dry										
[08:00-08:15]	45	39 MPH	37 F	Dry										
[08:15-08:30]	33	43 MPH	37 F	Dry										
[08:30-08:45]	41	41 MPH	39 F	Dry										
[08:45-09:00]	48	39 MPH	41 F	Dry										
[09:00-09:15]	30	40 MPH	42 F	Dry										
[09:15-09:30]	23	41 MPH	44 F	Dry										
[09:30-09:45]	19	41 MPH	46 F	Dry										
[09:45-10:00]	13	45 MPH	48 F	Dry										
[10:00-10:15]	8	43 MPH	50 F	Dry										
[10:15-10:30]	16	44 MPH	52 F	Dry										
[10:30-10:45]	17	41 MPH	54 F	Dry										
[10:45-11:00]	17	42 MPH	56 F	Dry										
[11:00-11:15]	25	41 MPH	60 F	Dry										
[11:15-11:30]	27	42 MPH	62 F	Dry										
[11:30-11:45]	21	42 MPH	66 F	Dry										
[11:45-12:00]	13	41 MPH	68 F	Dry										
Fri,04-01-11	805	40 MPH	41 F											
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">03-31-11 12:00 PM</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 35%;"></td> </tr> <tr> <td>04-01-11 12:00 PM</td> <td>2301</td> <td>40 MPH</td> <td>45 F</td> <td></td> </tr> </table>					03-31-11 12:00 PM					04-01-11 12:00 PM	2301	40 MPH	45 F	
03-31-11 12:00 PM														
04-01-11 12:00 PM	2301	40 MPH	45 F											

**Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: NorwichTownship
Street: Cosgray Rd - S of Homestead Pk**

A study of vehicle traffic was conducted with HI-STAR unit number 9902. The study was done in the NB lane at Cosgray Rd - S of Homestead Pk in NorwichTownship, OH in Franklin county. The study began on 09-15-11 at 12:00 PM and concluded on 09-19-11 at 12:00 PM, lasting a total of 96.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 15602 vehicles passed through the location with a peak volume of 150 on 09-19-11 at [07:45-08:00] and a minimum volume of 0 on 09-16-11 at [01:30-01:45]. The AADT count for this study was 3,901.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 40 - 45 MPH range or lower. The average speed for all classified vehicles was 44 MPH with 0.91% vehicles exceeding the posted speed of 55 MPH. The HI-STAR found 0.91 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 40MPH and the 85th percentile was 49.47 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to	to	to	to	to	to	to	to	to				
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
1	17	23	32	113	512	2648	5795	4544	1402	308	87	33	13	8				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 9274 which represents 60 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 4115 which represents 26 percent of the total classified vehicles. The number of Trucks and Busses in the study was 2014 which represents 13 percent of the total classified vehicles. The number of Tractor Trailors in the study was 133 which represents 1 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
9274	4115	2014	133	0														

CHART 2

HEADWAY

During the peak traffic period, on 09-19-11 at [07:45-08:00] the average headway between vehicles was 5.96 seconds. During the slowest traffic period, on 09-16-11 at [01:30-01:45] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52.00 and 97.00 degrees F.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901
---	---	---

Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry
Thu, 09-15-11				
[12:00-12:15]	41	44 MPH	82 F	---
[12:15-12:30]	43	45 MPH	83 F	---
[12:30-12:45]	58	44 MPH	83 F	---
[12:45-13:00]	57	43 MPH	85 F	---
[13:00-13:15]	53	44 MPH	87 F	---
[13:15-13:30]	34	44 MPH	87 F	---
[13:30-13:45]	48	46 MPH	89 F	---
[13:45-14:00]	49	46 MPH	89 F	---
[14:00-14:15]	47	43 MPH	91 F	---
[14:15-14:30]	52	44 MPH	91 F	---
[14:30-14:45]	44	45 MPH	91 F	---
[14:45-15:00]	42	45 MPH	93 F	---
[15:00-15:15]	41	43 MPH	93 F	---
[15:15-15:30]	51	45 MPH	93 F	---
[15:30-15:45]	59	44 MPH	93 F	---
[15:45-16:00]	76	43 MPH	91 F	---
[16:00-16:15]	48	43 MPH	91 F	---
[16:15-16:30]	59	45 MPH	91 F	---
[16:30-16:45]	62	45 MPH	89 F	---
[16:45-17:00]	73	44 MPH	87 F	---
[17:00-17:15]	69	44 MPH	87 F	---
[17:15-17:30]	80	46 MPH	85 F	---
[17:30-17:45]	86	47 MPH	83 F	---
[17:45-18:00]	69	44 MPH	82 F	---
[18:00-18:15]	89	46 MPH	80 F	---
[18:15-18:30]	81	45 MPH	78 F	---
[18:30-18:45]	60	46 MPH	76 F	---
[18:45-19:00]	46	45 MPH	76 F	---
[19:00-19:15]	59	45 MPH	74 F	---
[19:15-19:30]	61	46 MPH	72 F	---
[19:30-19:45]	73	44 MPH	70 F	---
[19:45-20:00]	57	44 MPH	70 F	---
[20:00-20:15]	45	43 MPH	68 F	---
[20:15-20:30]	44	43 MPH	66 F	---
[20:30-20:45]	29	43 MPH	66 F	---
[20:45-21:00]	24	44 MPH	64 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[21:00-21:15]	23	43 MPH	64 F	---
[21:15-21:30]	16	43 MPH	64 F	---
[21:30-21:45]	24	44 MPH	62 F	---
[21:45-22:00]	17	43 MPH	62 F	---
[22:00-22:15]	17	45 MPH	60 F	---
[22:15-22:30]	15	46 MPH	60 F	---
[22:30-22:45]	13	42 MPH	60 F	---
[22:45-23:00]	9	43 MPH	60 F	---
[23:00-23:15]	5	44 MPH	58 F	---
[23:15-23:30]	5	50 MPH	58 F	---
[23:30-23:45]	6	46 MPH	58 F	---
[23:45-00:00]	6	47 MPH	58 F	---
Thu,09-15-11	2165	44 MPH	77 F	
Fri,09-16-11				
[00:00-00:15]	7	44 MPH	56 F	---
[00:15-00:30]	2	43 MPH	56 F	---
[00:30-00:45]	3	43 MPH	56 F	---
[00:45-01:00]	2	48 MPH	56 F	---
[01:00-01:15]	1	48 MPH	56 F	---
[01:15-01:30]	2	45 MPH	56 F	---
[01:30-01:45]	0	0 MPH	54 F	---
[01:45-02:00]	2	45 MPH	54 F	---
[02:00-02:15]	1	58 MPH	54 F	---
[02:15-02:30]	1	52 MPH	54 F	---
[02:30-02:45]	0	0 MPH	54 F	---
[02:45-03:00]	2	43 MPH	54 F	---
[03:00-03:15]	0	0 MPH	52 F	---
[03:15-03:30]	0	0 MPH	52 F	---
[03:30-03:45]	0	0 MPH	52 F	---
[03:45-04:00]	1	42 MPH	52 F	---
[04:00-04:15]	2	40 MPH	52 F	---
[04:15-04:30]	7	49 MPH	52 F	---
[04:30-04:45]	10	46 MPH	52 F	---
[04:45-05:00]	13	47 MPH	52 F	---
[05:00-05:15]	9	43 MPH	52 F	---
[05:15-05:30]	19	45 MPH	52 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri, 09-16-11				
[05:30-05:45]	24	46 MPH	52 F	---
[05:45-06:00]	26	45 MPH	52 F	---
[06:00-06:15]	31	45 MPH	52 F	---
[06:15-06:30]	32	46 MPH	52 F	---
[06:30-06:45]	68	45 MPH	52 F	---
[06:45-07:00]	67	43 MPH	52 F	---
[07:00-07:15]	97	46 MPH	52 F	---
[07:15-07:30]	105	45 MPH	52 F	---
[07:30-07:45]	140	44 MPH	52 F	---
[07:45-08:00]	146	44 MPH	52 F	---
[08:00-08:15]	120	46 MPH	54 F	---
[08:15-08:30]	92	46 MPH	54 F	---
[08:30-08:45]	83	42 MPH	56 F	---
[08:45-09:00]	104	45 MPH	56 F	---
[09:00-09:15]	76	45 MPH	58 F	---
[09:15-09:30]	57	44 MPH	58 F	---
[09:30-09:45]	50	42 MPH	60 F	---
[09:45-10:00]	33	43 MPH	62 F	---
[10:00-10:15]	40	42 MPH	68 F	---
[10:15-10:30]	43	44 MPH	70 F	---
[10:30-10:45]	43	45 MPH	68 F	---
[10:45-11:00]	52	44 MPH	68 F	---
[11:00-11:15]	47	44 MPH	68 F	---
[11:15-11:30]	47	45 MPH	68 F	---
[11:30-11:45]	49	45 MPH	68 F	---
[11:45-12:00]	49	44 MPH	70 F	---
[12:00-12:15]	57	42 MPH	70 F	---
[12:15-12:30]	40	44 MPH	72 F	---
[12:30-12:45]	50	43 MPH	74 F	---
[12:45-13:00]	63	45 MPH	76 F	---
[13:00-13:15]	42	46 MPH	83 F	---
[13:15-13:30]	37	44 MPH	83 F	---
[13:30-13:45]	53	45 MPH	83 F	---
[13:45-14:00]	39	45 MPH	85 F	---
[14:00-14:15]	39	44 MPH	87 F	---
[14:15-14:30]	37	44 MPH	91 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri, 09-16-11				
[14:30-14:45]	51	45 MPH	91 F	---
[14:45-15:00]	51	46 MPH	87 F	---
[15:00-15:15]	52	43 MPH	85 F	---
[15:15-15:30]	45	45 MPH	89 F	---
[15:30-15:45]	62	43 MPH	87 F	---
[15:45-16:00]	86	44 MPH	85 F	---
[16:00-16:15]	69	45 MPH	83 F	---
[16:15-16:30]	81	44 MPH	82 F	---
[16:30-16:45]	88	43 MPH	80 F	---
[16:45-17:00]	83	43 MPH	78 F	---
[17:00-17:15]	87	44 MPH	80 F	---
[17:15-17:30]	85	45 MPH	78 F	---
[17:30-17:45]	70	44 MPH	76 F	---
[17:45-18:00]	83	45 MPH	76 F	---
[18:00-18:15]	78	44 MPH	76 F	---
[18:15-18:30]	96	46 MPH	74 F	---
[18:30-18:45]	99	44 MPH	74 F	---
[18:45-19:00]	77	43 MPH	72 F	---
[19:00-19:15]	61	43 MPH	72 F	---
[19:15-19:30]	56	43 MPH	70 F	---
[19:30-19:45]	59	45 MPH	70 F	---
[19:45-20:00]	33	44 MPH	68 F	---
[20:00-20:15]	27	43 MPH	68 F	---
[20:15-20:30]	37	44 MPH	68 F	---
[20:30-20:45]	30	44 MPH	66 F	---
[20:45-21:00]	22	47 MPH	66 F	---
[21:00-21:15]	24	44 MPH	66 F	---
[21:15-21:30]	25	43 MPH	66 F	---
[21:30-21:45]	21	45 MPH	64 F	---
[21:45-22:00]	37	44 MPH	64 F	---
[22:00-22:15]	24	43 MPH	64 F	---
[22:15-22:30]	31	44 MPH	64 F	---
[22:30-22:45]	20	45 MPH	64 F	---
[22:45-23:00]	11	46 MPH	62 F	---
[23:00-23:15]	17	45 MPH	62 F	---
[23:15-23:30]	6	43 MPH	62 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901
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Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry
Fri, 09-16-11				
[23:30-23:45]	7	48 MPH	62 F	---
[23:45-00:00]	8	42 MPH	62 F	---
Fri, 09-16-11				
	4161	44 MPH	65 F	
Sat, 09-17-11				
[00:00-00:15]	3	43 MPH	62 F	---
[00:15-00:30]	5	44 MPH	62 F	---
[00:30-00:45]	4	48 MPH	62 F	---
[00:45-01:00]	2	45 MPH	62 F	---
[01:00-01:15]	3	49 MPH	62 F	---
[01:15-01:30]	2	43 MPH	62 F	---
[01:30-01:45]	1	38 MPH	62 F	---
[01:45-02:00]	2	42 MPH	60 F	---
[02:00-02:15]	1	42 MPH	60 F	---
[02:15-02:30]	5	44 MPH	60 F	---
[02:30-02:45]	2	50 MPH	60 F	---
[02:45-03:00]	3	47 MPH	60 F	---
[03:00-03:15]	1	48 MPH	60 F	---
[03:15-03:30]	1	42 MPH	60 F	---
[03:30-03:45]	2	38 MPH	60 F	---
[03:45-04:00]	3	48 MPH	60 F	---
[04:00-04:15]	0	0 MPH	60 F	---
[04:15-04:30]	1	42 MPH	60 F	---
[04:30-04:45]	6	45 MPH	60 F	---
[04:45-05:00]	6	47 MPH	58 F	---
[05:00-05:15]	9	47 MPH	58 F	---
[05:15-05:30]	6	50 MPH	58 F	---
[05:30-05:45]	6	47 MPH	58 F	---
[05:45-06:00]	5	44 MPH	58 F	---
[06:00-06:15]	5	42 MPH	58 F	---
[06:15-06:30]	9	41 MPH	58 F	---
[06:30-06:45]	27	42 MPH	58 F	---
[06:45-07:00]	33	45 MPH	58 F	---
[07:00-07:15]	39	45 MPH	58 F	---
[07:15-07:30]	31	45 MPH	58 F	---
[07:30-07:45]	41	45 MPH	58 F	---
[07:45-08:00]	51	44 MPH	58 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat, 09-17-11

[08:00-08:15]	61	42 MPH	58 F	---
[08:15-08:30]	67	41 MPH	58 F	---
[08:30-08:45]	65	41 MPH	60 F	---
[08:45-09:00]	73	42 MPH	60 F	---
[09:00-09:15]	62	44 MPH	62 F	---
[09:15-09:30]	57	42 MPH	64 F	---
[09:30-09:45]	52	44 MPH	64 F	---
[09:45-10:00]	64	46 MPH	68 F	---
[10:00-10:15]	65	44 MPH	72 F	---
[10:15-10:30]	88	43 MPH	72 F	---
[10:30-10:45]	79	44 MPH	76 F	---
[10:45-11:00]	77	45 MPH	78 F	---
[11:00-11:15]	87	44 MPH	80 F	---
[11:15-11:30]	94	43 MPH	82 F	---
[11:30-11:45]	87	43 MPH	83 F	---
[11:45-12:00]	85	43 MPH	87 F	---
[12:00-12:15]	87	43 MPH	89 F	---
[12:15-12:30]	76	44 MPH	89 F	---
[12:30-12:45]	85	43 MPH	91 F	---
[12:45-13:00]	75	43 MPH	91 F	---
[13:00-13:15]	69	45 MPH	93 F	---
[13:15-13:30]	85	44 MPH	95 F	---
[13:30-13:45]	78	42 MPH	91 F	---
[13:45-14:00]	96	44 MPH	89 F	---
[14:00-14:15]	81	42 MPH	87 F	---
[14:15-14:30]	59	46 MPH	87 F	---
[14:30-14:45]	71	44 MPH	93 F	---
[14:45-15:00]	82	45 MPH	93 F	---
[15:00-15:15]	64	44 MPH	93 F	---
[15:15-15:30]	60	45 MPH	97 F	---
[15:30-15:45]	75	44 MPH	97 F	---
[15:45-16:00]	74	43 MPH	97 F	---
[16:00-16:15]	74	44 MPH	97 F	---
[16:15-16:30]	87	44 MPH	97 F	---
[16:30-16:45]	98	45 MPH	97 F	---
[16:45-17:00]	56	46 MPH	95 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat,09-17-11

[17:00-17:15]	65	44 MPH	91 F	---
[17:15-17:30]	70	43 MPH	89 F	---
[17:30-17:45]	87	43 MPH	87 F	---
[17:45-18:00]	56	44 MPH	85 F	---
[18:00-18:15]	68	43 MPH	83 F	---
[18:15-18:30]	73	45 MPH	82 F	---
[18:30-18:45]	51	44 MPH	80 F	---
[18:45-19:00]	54	44 MPH	78 F	---
[19:00-19:15]	51	46 MPH	78 F	---
[19:15-19:30]	58	43 MPH	76 F	---
[19:30-19:45]	37	46 MPH	76 F	---
[19:45-20:00]	33	42 MPH	76 F	---
[20:00-20:15]	52	42 MPH	76 F	---
[20:15-20:30]	27	44 MPH	74 F	---
[20:30-20:45]	53	43 MPH	74 F	---
[20:45-21:00]	34	45 MPH	72 F	---
[21:00-21:15]	25	44 MPH	70 F	---
[21:15-21:30]	14	41 MPH	70 F	---
[21:30-21:45]	15	42 MPH	70 F	---
[21:45-22:00]	14	41 MPH	68 F	---
[22:00-22:15]	12	44 MPH	68 F	---
[22:15-22:30]	18	42 MPH	68 F	---
[22:30-22:45]	30	44 MPH	66 F	---
[22:45-23:00]	30	43 MPH	66 F	---
[23:00-23:15]	14	44 MPH	66 F	---
[23:15-23:30]	8	44 MPH	64 F	---
[23:30-23:45]	8	47 MPH	64 F	---
[23:45-00:00]	7	40 MPH	64 F	---

Sat,09-17-11

4074

44 MPH

73 F

Sun,09-18-11

[00:00-00:15]	4	46 MPH	64 F	---
[00:15-00:30]	5	46 MPH	64 F	---
[00:30-00:45]	7	41 MPH	62 F	---
[00:45-01:00]	7	44 MPH	62 F	---
[01:00-01:15]	5	42 MPH	62 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun, 09-18-11				
[01:15-01:30]	5	42 MPH	62 F	---
[01:30-01:45]	4	42 MPH	62 F	---
[01:45-02:00]	2	43 MPH	62 F	---
[02:00-02:15]	3	44 MPH	60 F	---
[02:15-02:30]	4	44 MPH	60 F	---
[02:30-02:45]	2	43 MPH	60 F	---
[02:45-03:00]	1	75 MPH	60 F	---
[03:00-03:15]	2	40 MPH	60 F	---
[03:15-03:30]	1	48 MPH	60 F	---
[03:30-03:45]	2	45 MPH	60 F	---
[03:45-04:00]	1	52 MPH	60 F	---
[04:00-04:15]	0	0 MPH	58 F	---
[04:15-04:30]	0	0 MPH	58 F	---
[04:30-04:45]	0	0 MPH	58 F	---
[04:45-05:00]	0	0 MPH	58 F	---
[05:00-05:15]	1	48 MPH	58 F	---
[05:15-05:30]	1	52 MPH	58 F	---
[05:30-05:45]	2	35 MPH	58 F	---
[05:45-06:00]	2	45 MPH	58 F	---
[06:00-06:15]	5	46 MPH	58 F	---
[06:15-06:30]	3	43 MPH	56 F	---
[06:30-06:45]	16	45 MPH	56 F	---
[06:45-07:00]	25	46 MPH	56 F	---
[07:00-07:15]	17	44 MPH	56 F	---
[07:15-07:30]	13	44 MPH	56 F	---
[07:30-07:45]	19	47 MPH	56 F	---
[07:45-08:00]	37	46 MPH	58 F	---
[08:00-08:15]	24	43 MPH	60 F	---
[08:15-08:30]	28	47 MPH	60 F	---
[08:30-08:45]	26	45 MPH	62 F	---
[08:45-09:00]	44	46 MPH	64 F	---
[09:00-09:15]	56	44 MPH	68 F	---
[09:15-09:30]	63	44 MPH	70 F	---
[09:30-09:45]	65	43 MPH	72 F	---
[09:45-10:00]	52	44 MPH	74 F	---
[10:00-10:15]	67	44 MPH	76 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun, 09-18-11				
[10:15-10:30]	100	44 MPH	76 F	---
[10:30-10:45]	87	42 MPH	80 F	---
[10:45-11:00]	59	44 MPH	82 F	---
[11:00-11:15]	68	43 MPH	83 F	---
[11:15-11:30]	77	43 MPH	87 F	---
[11:30-11:45]	73	43 MPH	89 F	---
[11:45-12:00]	69	44 MPH	91 F	---
[12:00-12:15]	72	43 MPH	93 F	---
[12:15-12:30]	72	45 MPH	95 F	---
[12:30-12:45]	96	43 MPH	95 F	---
[12:45-13:00]	80	43 MPH	97 F	---
[13:00-13:15]	93	45 MPH	97 F	---
[13:15-13:30]	73	47 MPH	93 F	---
[13:30-13:45]	88	43 MPH	93 F	---
[13:45-14:00]	82	41 MPH	95 F	---
[14:00-14:15]	83	43 MPH	97 F	---
[14:15-14:30]	79	42 MPH	97 F	---
[14:30-14:45]	76	42 MPH	97 F	---
[14:45-15:00]	83	43 MPH	97 F	---
[15:00-15:15]	76	43 MPH	95 F	---
[15:15-15:30]	65	42 MPH	91 F	---
[15:30-15:45]	64	44 MPH	91 F	---
[15:45-16:00]	53	43 MPH	91 F	---
[16:00-16:15]	75	44 MPH	93 F	---
[16:15-16:30]	76	42 MPH	95 F	---
[16:30-16:45]	70	43 MPH	93 F	---
[16:45-17:00]	64	45 MPH	91 F	---
[17:00-17:15]	83	43 MPH	89 F	---
[17:15-17:30]	65	44 MPH	87 F	---
[17:30-17:45]	64	44 MPH	85 F	---
[17:45-18:00]	55	44 MPH	83 F	---
[18:00-18:15]	58	44 MPH	82 F	---
[18:15-18:30]	47	43 MPH	82 F	---
[18:30-18:45]	49	44 MPH	80 F	---
[18:45-19:00]	44	43 MPH	80 F	---
[19:00-19:15]	50	44 MPH	78 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[19:15-19:30]	48	43 MPH	78 F	---
[19:30-19:45]	40	44 MPH	78 F	---
[19:45-20:00]	41	42 MPH	76 F	---
[20:00-20:15]	36	43 MPH	76 F	---
[20:15-20:30]	36	44 MPH	76 F	---
[20:30-20:45]	24	44 MPH	76 F	---
[20:45-21:00]	17	41 MPH	76 F	---
[21:00-21:15]	19	43 MPH	76 F	---
[21:15-21:30]	13	44 MPH	76 F	---
[21:30-21:45]	17	43 MPH	76 F	---
[21:45-22:00]	7	45 MPH	76 F	---
[22:00-22:15]	11	46 MPH	76 F	---
[22:15-22:30]	13	44 MPH	74 F	---
[22:30-22:45]	4	45 MPH	74 F	---
[22:45-23:00]	4	46 MPH	74 F	---
[23:00-23:15]	2	47 MPH	74 F	---
[23:15-23:30]	4	45 MPH	74 F	---
[23:30-23:45]	3	49 MPH	74 F	---
[23:45-00:00]	4	42 MPH	74 F	---
Sun,09-18-11	3532	44 MPH	75 F	
Mon,09-19-11				
[00:00-00:15]	3	41 MPH	72 F	---
[00:15-00:30]	1	42 MPH	72 F	---
[00:30-00:45]	1	62 MPH	72 F	---
[00:45-01:00]	1	48 MPH	72 F	---
[01:00-01:15]	0	0 MPH	72 F	---
[01:15-01:30]	0	0 MPH	72 F	---
[01:30-01:45]	1	42 MPH	72 F	---
[01:45-02:00]	0	0 MPH	70 F	---
[02:00-02:15]	0	0 MPH	70 F	---
[02:15-02:30]	0	0 MPH	70 F	---
[02:30-02:45]	1	68 MPH	70 F	---
[02:45-03:00]	0	0 MPH	70 F	---
[03:00-03:15]	1	48 MPH	70 F	---
[03:15-03:30]	0	0 MPH	70 F	---
[03:30-03:45]	2	40 MPH	70 F	---

Date/Time/Volume/Average Speed/Temperature Report

Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> HI-Star ID: 9902 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin </div> <div> Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 55 AADT Factor: 1 </div> <div> End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15602 AADT Count: 3,901 </div> </div>				
Mon,09-19-11				
[03:45-04:00]	0	0 MPH	70 F	---
[04:00-04:15]	2	43 MPH	70 F	---
[04:15-04:30]	2	48 MPH	70 F	---
[04:30-04:45]	8	45 MPH	68 F	---
[04:45-05:00]	8	46 MPH	68 F	---
[05:00-05:15]	10	44 MPH	68 F	---
[05:15-05:30]	23	43 MPH	68 F	---
[05:30-05:45]	23	42 MPH	68 F	---
[05:45-06:00]	19	46 MPH	68 F	---
[06:00-06:15]	34	45 MPH	68 F	---
[06:15-06:30]	38	44 MPH	66 F	---
[06:30-06:45]	76	44 MPH	66 F	---
[06:45-07:00]	79	42 MPH	66 F	---
[07:00-07:15]	112	44 MPH	66 F	---
[07:15-07:30]	103	45 MPH	66 F	---
[07:30-07:45]	141	46 MPH	66 F	---
[07:45-08:00]	150	45 MPH	66 F	---
[08:00-08:15]	97	44 MPH	66 F	---
[08:15-08:30]	94	45 MPH	66 F	---
[08:30-08:45]	90	42 MPH	68 F	---
[08:45-09:00]	77	45 MPH	68 F	---
[09:00-09:15]	58	45 MPH	68 F	---
[09:15-09:30]	54	45 MPH	68 F	---
[09:30-09:45]	37	45 MPH	68 F	---
[09:45-10:00]	42	45 MPH	68 F	---
[10:00-10:15]	27	43 MPH	68 F	---
[10:15-10:30]	43	42 MPH	68 F	---
[10:30-10:45]	27	46 MPH	70 F	---
[10:45-11:00]	41	43 MPH	70 F	---
[11:00-11:15]	33	41 MPH	68 F	---
[11:15-11:30]	30	41 MPH	68 F	---
[11:30-11:45]	34	43 MPH	68 F	---
[11:45-12:00]	47	43 MPH	68 F	---
Mon,09-19-11	1670	44 MPH	69 F	

**Nu-Metrics Traffic Analyzer Study
 Computer Generated Summary Report
 City: NorwichTownship
 Street: Cosgray Rd - S of Homestead Pk**

A study of vehicle traffic was conducted with HI-STAR unit number 7303. The study was done in the SB lane at Cosgray Rd - S of Homestead Pk in NorwichTownship, OH in Franklin county. The study began on 09-15-11 at 12:00 PM and concluded on 09-19-11 at 12:00 PM, lasting a total of 96.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 15997 vehicles passed through the location with a peak volume of 193 on 09-15-11 at [17:15-17:30] and a minimum volume of 0 on 09-16-11 at [00:45-01:00]. The AADT count for this study was 3,999.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 40 - 45 MPH range or lower. The average speed for all classified vehicles was 44 MPH with 0.46% vehicles exceeding the posted speed of 55 MPH. The HI-STAR found 0.46 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 40MPH and the 85th percentile was 49.04 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to	to	to	to	to	to	to	to	to				
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
0	3	26	32	103	544	2611	6364	4822	1219	179	49	13	8	4				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 11028 which represents 69 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 3652 which represents 23 percent of the total classified vehicles. The number of Trucks and Busses in the study was 1176 which represents 7 percent of the total classified vehicles. The number of Tractor Trailors in the study was 121 which represents 1 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
11028	3652	1176	121	0														

CHART 2

HEADWAY

During the peak traffic period, on 09-15-11 at [17:15-17:30] the average headway between vehicles was 4.639 seconds. During the slowest traffic period, on 09-16-11 at [00:45-01:00] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52.00 and 99.00 degrees F.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: NorwichTownship County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[12:00-12:15]	60	33 MPH	80 F	---
[12:15-12:30]	41	45 MPH	83 F	---
[12:30-12:45]	49	45 MPH	83 F	---
[12:45-13:00]	41	46 MPH	85 F	---
[13:00-13:15]	53	44 MPH	87 F	---
[13:15-13:30]	28	44 MPH	89 F	---
[13:30-13:45]	40	46 MPH	89 F	---
[13:45-14:00]	41	44 MPH	91 F	---
[14:00-14:15]	49	45 MPH	91 F	---
[14:15-14:30]	56	47 MPH	93 F	---
[14:30-14:45]	65	44 MPH	91 F	---
[14:45-15:00]	58	43 MPH	93 F	---
[15:00-15:15]	56	44 MPH	93 F	---
[15:15-15:30]	65	45 MPH	93 F	---
[15:30-15:45]	97	45 MPH	93 F	---
[15:45-16:00]	93	44 MPH	91 F	---
[16:00-16:15]	90	46 MPH	89 F	---
[16:15-16:30]	109	44 MPH	89 F	---
[16:30-16:45]	120	44 MPH	89 F	---
[16:45-17:00]	152	45 MPH	87 F	---
[17:00-17:15]	162	44 MPH	87 F	---
[17:15-17:30]	193	44 MPH	85 F	---
[17:30-17:45]	178	45 MPH	83 F	---
[17:45-18:00]	174	44 MPH	82 F	---
[18:00-18:15]	120	45 MPH	80 F	---
[18:15-18:30]	118	45 MPH	78 F	---
[18:30-18:45]	97	45 MPH	76 F	---
[18:45-19:00]	88	44 MPH	76 F	---
[19:00-19:15]	63	42 MPH	74 F	---
[19:15-19:30]	73	44 MPH	72 F	---
[19:30-19:45]	63	44 MPH	70 F	---
[19:45-20:00]	74	43 MPH	70 F	---
[20:00-20:15]	81	44 MPH	68 F	---
[20:15-20:30]	59	43 MPH	68 F	---
[20:30-20:45]	54	45 MPH	66 F	---
[20:45-21:00]	45	44 MPH	66 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[21:00-21:15]	33	45 MPH	64 F	---
[21:15-21:30]	36	45 MPH	64 F	---
[21:30-21:45]	26	44 MPH	64 F	---
[21:45-22:00]	19	43 MPH	62 F	---
[22:00-22:15]	23	43 MPH	62 F	---
[22:15-22:30]	18	45 MPH	62 F	---
[22:30-22:45]	13	44 MPH	60 F	---
[22:45-23:00]	13	48 MPH	60 F	---
[23:00-23:15]	11	44 MPH	60 F	---
[23:15-23:30]	6	46 MPH	60 F	---
[23:30-23:45]	6	41 MPH	58 F	---
[23:45-00:00]	11	44 MPH	58 F	---
Thu,09-15-11	3220	44 MPH	77 F	
Fri,09-16-11				
[00:00-00:15]	7	44 MPH	58 F	---
[00:15-00:30]	2	45 MPH	56 F	---
[00:30-00:45]	4	44 MPH	56 F	---
[00:45-01:00]	0	0 MPH	56 F	---
[01:00-01:15]	2	45 MPH	56 F	---
[01:15-01:30]	3	47 MPH	56 F	---
[01:30-01:45]	8	46 MPH	56 F	---
[01:45-02:00]	4	49 MPH	54 F	---
[02:00-02:15]	4	46 MPH	54 F	---
[02:15-02:30]	4	48 MPH	54 F	---
[02:30-02:45]	2	43 MPH	54 F	---
[02:45-03:00]	0	0 MPH	54 F	---
[03:00-03:15]	1	52 MPH	52 F	---
[03:15-03:30]	1	48 MPH	52 F	---
[03:30-03:45]	0	0 MPH	52 F	---
[03:45-04:00]	0	0 MPH	52 F	---
[04:00-04:15]	2	50 MPH	52 F	---
[04:15-04:30]	0	0 MPH	52 F	---
[04:30-04:45]	3	43 MPH	52 F	---
[04:45-05:00]	1	32 MPH	52 F	---
[05:00-05:15]	3	42 MPH	52 F	---
[05:15-05:30]	2	50 MPH	52 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: NorwichTownship County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[05:30-05:45]	9	49 MPH	52 F	---
[05:45-06:00]	8	45 MPH	52 F	---
[06:00-06:15]	11	43 MPH	52 F	---
[06:15-06:30]	13	46 MPH	52 F	---
[06:30-06:45]	16	44 MPH	52 F	---
[06:45-07:00]	20	45 MPH	52 F	---
[07:00-07:15]	45	46 MPH	52 F	---
[07:15-07:30]	34	47 MPH	52 F	---
[07:30-07:45]	51	48 MPH	52 F	---
[07:45-08:00]	52	45 MPH	52 F	---
[08:00-08:15]	39	46 MPH	54 F	---
[08:15-08:30]	46	45 MPH	54 F	---
[08:30-08:45]	39	44 MPH	56 F	---
[08:45-09:00]	50	44 MPH	56 F	---
[09:00-09:15]	33	45 MPH	58 F	---
[09:15-09:30]	29	44 MPH	58 F	---
[09:30-09:45]	24	45 MPH	60 F	---
[09:45-10:00]	41	44 MPH	62 F	---
[10:00-10:15]	27	46 MPH	68 F	---
[10:15-10:30]	44	44 MPH	68 F	---
[10:30-10:45]	32	45 MPH	68 F	---
[10:45-11:00]	56	44 MPH	68 F	---
[11:00-11:15]	48	44 MPH	66 F	---
[11:15-11:30]	41	45 MPH	68 F	---
[11:30-11:45]	31	44 MPH	68 F	---
[11:45-12:00]	35	43 MPH	68 F	---
[12:00-12:15]	38	43 MPH	68 F	---
[12:15-12:30]	51	43 MPH	70 F	---
[12:30-12:45]	49	45 MPH	72 F	---
[12:45-13:00]	39	46 MPH	76 F	---
[13:00-13:15]	40	46 MPH	83 F	---
[13:15-13:30]	48	43 MPH	83 F	---
[13:30-13:45]	39	43 MPH	82 F	---
[13:45-14:00]	65	43 MPH	83 F	---
[14:00-14:15]	54	44 MPH	85 F	---
[14:15-14:30]	47	44 MPH	89 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri, 09-16-11				
[14:30-14:45]	72	44 MPH	89 F	---
[14:45-15:00]	57	43 MPH	85 F	---
[15:00-15:15]	74	43 MPH	83 F	---
[15:15-15:30]	82	42 MPH	85 F	---
[15:30-15:45]	93	45 MPH	85 F	---
[15:45-16:00]	96	43 MPH	83 F	---
[16:00-16:15]	113	44 MPH	82 F	---
[16:15-16:30]	108	42 MPH	80 F	---
[16:30-16:45]	127	44 MPH	78 F	---
[16:45-17:00]	166	44 MPH	76 F	---
[17:00-17:15]	171	43 MPH	76 F	---
[17:15-17:30]	186	42 MPH	76 F	---
[17:30-17:45]	140	44 MPH	76 F	---
[17:45-18:00]	121	44 MPH	74 F	---
[18:00-18:15]	132	45 MPH	74 F	---
[18:15-18:30]	112	43 MPH	72 F	---
[18:30-18:45]	86	44 MPH	72 F	---
[18:45-19:00]	79	44 MPH	70 F	---
[19:00-19:15]	72	44 MPH	70 F	---
[19:15-19:30]	87	43 MPH	70 F	---
[19:30-19:45]	87	42 MPH	68 F	---
[19:45-20:00]	85	42 MPH	68 F	---
[20:00-20:15]	47	41 MPH	68 F	---
[20:15-20:30]	66	44 MPH	66 F	---
[20:30-20:45]	33	44 MPH	66 F	---
[20:45-21:00]	31	43 MPH	66 F	---
[21:00-21:15]	40	44 MPH	66 F	---
[21:15-21:30]	42	45 MPH	64 F	---
[21:30-21:45]	31	46 MPH	64 F	---
[21:45-22:00]	34	44 MPH	64 F	---
[22:00-22:15]	23	44 MPH	64 F	---
[22:15-22:30]	24	45 MPH	62 F	---
[22:30-22:45]	38	43 MPH	62 F	---
[22:45-23:00]	15	46 MPH	62 F	---
[23:00-23:15]	20	47 MPH	62 F	---
[23:15-23:30]	20	45 MPH	62 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[23:30-23:45]	6	45 MPH	62 F	---
[23:45-00:00]	9	42 MPH	62 F	---
Fri,09-16-11	4222	44 MPH	65 F	
Sat,09-17-11				
[00:00-00:15]	12	47 MPH	62 F	---
[00:15-00:30]	7	43 MPH	62 F	---
[00:30-00:45]	12	50 MPH	62 F	---
[00:45-01:00]	9	48 MPH	62 F	---
[01:00-01:15]	6	47 MPH	62 F	---
[01:15-01:30]	7	45 MPH	62 F	---
[01:30-01:45]	6	47 MPH	62 F	---
[01:45-02:00]	1	42 MPH	60 F	---
[02:00-02:15]	1	42 MPH	60 F	---
[02:15-02:30]	6	43 MPH	60 F	---
[02:30-02:45]	5	46 MPH	60 F	---
[02:45-03:00]	2	45 MPH	60 F	---
[03:00-03:15]	0	0 MPH	60 F	---
[03:15-03:30]	2	47 MPH	60 F	---
[03:30-03:45]	2	45 MPH	60 F	---
[03:45-04:00]	0	0 MPH	60 F	---
[04:00-04:15]	0	0 MPH	60 F	---
[04:15-04:30]	1	42 MPH	60 F	---
[04:30-04:45]	1	52 MPH	58 F	---
[04:45-05:00]	2	43 MPH	58 F	---
[05:00-05:15]	3	47 MPH	58 F	---
[05:15-05:30]	1	58 MPH	58 F	---
[05:30-05:45]	1	52 MPH	58 F	---
[05:45-06:00]	2	47 MPH	58 F	---
[06:00-06:15]	1	42 MPH	58 F	---
[06:15-06:30]	6	42 MPH	58 F	---
[06:30-06:45]	10	44 MPH	58 F	---
[06:45-07:00]	8	46 MPH	58 F	---
[07:00-07:15]	13	46 MPH	58 F	---
[07:15-07:30]	18	45 MPH	58 F	---
[07:30-07:45]	17	45 MPH	58 F	---
[07:45-08:00]	28	44 MPH	58 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat, 09-17-11

[08:00-08:15]	24	45 MPH	58 F	---
[08:15-08:30]	34	44 MPH	58 F	---
[08:30-08:45]	38	44 MPH	60 F	---
[08:45-09:00]	50	44 MPH	60 F	---
[09:00-09:15]	67	44 MPH	62 F	---
[09:15-09:30]	51	45 MPH	62 F	---
[09:30-09:45]	50	42 MPH	64 F	---
[09:45-10:00]	54	43 MPH	68 F	---
[10:00-10:15]	107	42 MPH	72 F	---
[10:15-10:30]	75	44 MPH	70 F	---
[10:30-10:45]	77	42 MPH	76 F	---
[10:45-11:00]	73	43 MPH	76 F	---
[11:00-11:15]	94	43 MPH	80 F	---
[11:15-11:30]	87	42 MPH	82 F	---
[11:30-11:45]	59	44 MPH	83 F	---
[11:45-12:00]	61	43 MPH	87 F	---
[12:00-12:15]	58	46 MPH	89 F	---
[12:15-12:30]	80	44 MPH	91 F	---
[12:30-12:45]	82	44 MPH	91 F	---
[12:45-13:00]	72	43 MPH	91 F	---
[13:00-13:15]	67	44 MPH	93 F	---
[13:15-13:30]	86	43 MPH	93 F	---
[13:30-13:45]	85	42 MPH	91 F	---
[13:45-14:00]	64	44 MPH	89 F	---
[14:00-14:15]	84	43 MPH	85 F	---
[14:15-14:30]	94	42 MPH	85 F	---
[14:30-14:45]	83	43 MPH	91 F	---
[14:45-15:00]	103	43 MPH	91 F	---
[15:00-15:15]	107	43 MPH	91 F	---
[15:15-15:30]	85	43 MPH	97 F	---
[15:30-15:45]	82	42 MPH	97 F	---
[15:45-16:00]	70	43 MPH	97 F	---
[16:00-16:15]	72	42 MPH	97 F	---
[16:15-16:30]	84	43 MPH	97 F	---
[16:30-16:45]	89	44 MPH	95 F	---
[16:45-17:00]	82	43 MPH	93 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat,09-17-11

[17:00-17:15]	70	43 MPH	89 F	---
[17:15-17:30]	72	43 MPH	87 F	---
[17:30-17:45]	93	43 MPH	85 F	---
[17:45-18:00]	101	41 MPH	83 F	---
[18:00-18:15]	87	42 MPH	82 F	---
[18:15-18:30]	86	44 MPH	80 F	---
[18:30-18:45]	77	43 MPH	80 F	---
[18:45-19:00]	91	43 MPH	78 F	---
[19:00-19:15]	82	44 MPH	76 F	---
[19:15-19:30]	61	42 MPH	76 F	---
[19:30-19:45]	48	44 MPH	76 F	---
[19:45-20:00]	64	42 MPH	76 F	---
[20:00-20:15]	57	43 MPH	76 F	---
[20:15-20:30]	40	43 MPH	74 F	---
[20:30-20:45]	28	46 MPH	72 F	---
[20:45-21:00]	30	44 MPH	72 F	---
[21:00-21:15]	26	44 MPH	70 F	---
[21:15-21:30]	16	44 MPH	70 F	---
[21:30-21:45]	29	44 MPH	70 F	---
[21:45-22:00]	22	45 MPH	68 F	---
[22:00-22:15]	21	43 MPH	68 F	---
[22:15-22:30]	12	45 MPH	68 F	---
[22:30-22:45]	26	44 MPH	66 F	---
[22:45-23:00]	18	43 MPH	66 F	---
[23:00-23:15]	23	44 MPH	66 F	---
[23:15-23:30]	14	45 MPH	66 F	---
[23:30-23:45]	9	44 MPH	64 F	---
[23:45-00:00]	19	45 MPH	64 F	---

Sat,09-17-11

4142 44 MPH 72 F

Sun,09-18-11

[00:00-00:15]	8	44 MPH	64 F	---
[00:15-00:30]	23	46 MPH	64 F	---
[00:30-00:45]	19	45 MPH	64 F	---
[00:45-01:00]	4	49 MPH	62 F	---
[01:00-01:15]	7	47 MPH	62 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[01:15-01:30]	4	50 MPH	62 F	---
[01:30-01:45]	3	44 MPH	62 F	---
[01:45-02:00]	6	44 MPH	62 F	---
[02:00-02:15]	8	42 MPH	62 F	---
[02:15-02:30]	0	0 MPH	62 F	---
[02:30-02:45]	5	46 MPH	60 F	---
[02:45-03:00]	1	48 MPH	60 F	---
[03:00-03:15]	3	43 MPH	60 F	---
[03:15-03:30]	2	47 MPH	60 F	---
[03:30-03:45]	1	42 MPH	60 F	---
[03:45-04:00]	0	0 MPH	60 F	---
[04:00-04:15]	2	38 MPH	60 F	---
[04:15-04:30]	0	0 MPH	60 F	---
[04:30-04:45]	0	0 MPH	58 F	---
[04:45-05:00]	0	0 MPH	58 F	---
[05:00-05:15]	0	0 MPH	58 F	---
[05:15-05:30]	0	0 MPH	58 F	---
[05:30-05:45]	2	50 MPH	58 F	---
[05:45-06:00]	1	48 MPH	58 F	---
[06:00-06:15]	3	37 MPH	58 F	---
[06:15-06:30]	3	43 MPH	58 F	---
[06:30-06:45]	5	46 MPH	58 F	---
[06:45-07:00]	10	46 MPH	56 F	---
[07:00-07:15]	10	47 MPH	56 F	---
[07:15-07:30]	9	51 MPH	56 F	---
[07:30-07:45]	12	45 MPH	58 F	---
[07:45-08:00]	12	46 MPH	58 F	---
[08:00-08:15]	16	47 MPH	60 F	---
[08:15-08:30]	17	44 MPH	60 F	---
[08:30-08:45]	36	46 MPH	62 F	---
[08:45-09:00]	47	45 MPH	64 F	---
[09:00-09:15]	40	47 MPH	66 F	---
[09:15-09:30]	29	48 MPH	70 F	---
[09:30-09:45]	38	46 MPH	72 F	---
[09:45-10:00]	36	44 MPH	74 F	---
[10:00-10:15]	43	46 MPH	76 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[10:15-10:30]	38	46 MPH	78 F	---
[10:30-10:45]	60	45 MPH	80 F	---
[10:45-11:00]	66	45 MPH	82 F	---
[11:00-11:15]	55	45 MPH	85 F	---
[11:15-11:30]	68	44 MPH	87 F	---
[11:30-11:45]	53	44 MPH	89 F	---
[11:45-12:00]	60	43 MPH	91 F	---
[12:00-12:15]	68	43 MPH	93 F	---
[12:15-12:30]	80	45 MPH	95 F	---
[12:30-12:45]	73	44 MPH	97 F	---
[12:45-13:00]	52	44 MPH	97 F	---
[13:00-13:15]	62	44 MPH	99 F	---
[13:15-13:30]	69	44 MPH	95 F	---
[13:30-13:45]	73	44 MPH	93 F	---
[13:45-14:00]	86	43 MPH	95 F	---
[14:00-14:15]	75	42 MPH	97 F	---
[14:15-14:30]	73	43 MPH	97 F	---
[14:30-14:45]	63	45 MPH	97 F	---
[14:45-15:00]	75	43 MPH	97 F	---
[15:00-15:15]	70	42 MPH	95 F	---
[15:15-15:30]	75	43 MPH	91 F	---
[15:30-15:45]	74	41 MPH	91 F	---
[15:45-16:00]	87	43 MPH	91 F	---
[16:00-16:15]	75	43 MPH	91 F	---
[16:15-16:30]	82	43 MPH	93 F	---
[16:30-16:45]	89	42 MPH	93 F	---
[16:45-17:00]	111	42 MPH	91 F	---
[17:00-17:15]	85	43 MPH	89 F	---
[17:15-17:30]	93	42 MPH	87 F	---
[17:30-17:45]	97	42 MPH	85 F	---
[17:45-18:00]	92	42 MPH	83 F	---
[18:00-18:15]	82	44 MPH	82 F	---
[18:15-18:30]	71	42 MPH	82 F	---
[18:30-18:45]	58	43 MPH	80 F	---
[18:45-19:00]	68	40 MPH	80 F	---
[19:00-19:15]	58	44 MPH	80 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: Norwich Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[19:15-19:30]	76	42 MPH	78 F	---
[19:30-19:45]	46	45 MPH	78 F	---
[19:45-20:00]	58	42 MPH	78 F	---
[20:00-20:15]	67	42 MPH	76 F	---
[20:15-20:30]	45	44 MPH	76 F	---
[20:30-20:45]	38	44 MPH	76 F	---
[20:45-21:00]	28	43 MPH	76 F	---
[21:00-21:15]	25	45 MPH	76 F	---
[21:15-21:30]	24	43 MPH	76 F	---
[21:30-21:45]	17	45 MPH	76 F	---
[21:45-22:00]	18	43 MPH	76 F	---
[22:00-22:15]	6	43 MPH	76 F	---
[22:15-22:30]	9	43 MPH	76 F	---
[22:30-22:45]	13	46 MPH	74 F	---
[22:45-23:00]	7	41 MPH	74 F	---
[23:00-23:15]	6	43 MPH	74 F	---
[23:15-23:30]	6	47 MPH	74 F	---
[23:30-23:45]	7	42 MPH	74 F	---
[23:45-00:00]	4	48 MPH	74 F	---
Sun,09-18-11	3581	44 MPH	75 F	
Mon,09-19-11				
[00:00-00:15]	3	39 MPH	74 F	---
[00:15-00:30]	3	47 MPH	72 F	---
[00:30-00:45]	4	45 MPH	72 F	---
[00:45-01:00]	1	62 MPH	72 F	---
[01:00-01:15]	2	47 MPH	72 F	---
[01:15-01:30]	0	0 MPH	72 F	---
[01:30-01:45]	0	0 MPH	72 F	---
[01:45-02:00]	1	48 MPH	72 F	---
[02:00-02:15]	1	48 MPH	70 F	---
[02:15-02:30]	0	0 MPH	70 F	---
[02:30-02:45]	0	0 MPH	70 F	---
[02:45-03:00]	0	0 MPH	70 F	---
[03:00-03:15]	0	0 MPH	70 F	---
[03:15-03:30]	2	45 MPH	70 F	---
[03:30-03:45]	0	0 MPH	70 F	---

Date/Time/Volume/Average Speed/Temperature Report

Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry			
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"> HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: NorwichTownship County: Franklin </td> <td style="width: 33%;"> Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1 </td> <td style="width: 33%;"> End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999 </td> </tr> </table>					HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: NorwichTownship County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999
HI-Star ID: 7303 Street: Cosgray Rd - S of Homestead Pk State: OH City: NorwichTownship County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15997 AADT Count: 3,999					
Mon,09-19-11							
[03:45-04:00]	0	0 MPH	70 F	---			
[04:00-04:15]	0	0 MPH	70 F	---			
[04:15-04:30]	2	53 MPH	70 F	---			
[04:30-04:45]	2	43 MPH	70 F	---			
[04:45-05:00]	2	43 MPH	68 F	---			
[05:00-05:15]	0	0 MPH	68 F	---			
[05:15-05:30]	2	43 MPH	68 F	---			
[05:30-05:45]	5	48 MPH	68 F	---			
[05:45-06:00]	3	37 MPH	68 F	---			
[06:00-06:15]	13	43 MPH	68 F	---			
[06:15-06:30]	9	47 MPH	66 F	---			
[06:30-06:45]	25	43 MPH	66 F	---			
[06:45-07:00]	24	43 MPH	66 F	---			
[07:00-07:15]	40	44 MPH	66 F	---			
[07:15-07:30]	45	45 MPH	66 F	---			
[07:30-07:45]	42	44 MPH	66 F	---			
[07:45-08:00]	52	45 MPH	66 F	---			
[08:00-08:15]	40	45 MPH	66 F	---			
[08:15-08:30]	47	45 MPH	66 F	---			
[08:30-08:45]	47	45 MPH	66 F	---			
[08:45-09:00]	29	42 MPH	66 F	---			
[09:00-09:15]	31	45 MPH	68 F	---			
[09:15-09:30]	44	44 MPH	68 F	---			
[09:30-09:45]	31	45 MPH	68 F	---			
[09:45-10:00]	37	43 MPH	68 F	---			
[10:00-10:15]	17	44 MPH	68 F	---			
[10:15-10:30]	31	46 MPH	68 F	---			
[10:30-10:45]	28	43 MPH	68 F	---			
[10:45-11:00]	32	45 MPH	68 F	---			
[11:00-11:15]	37	44 MPH	68 F	---			
[11:15-11:30]	42	44 MPH	68 F	---			
[11:30-11:45]	26	45 MPH	68 F	---			
[11:45-12:00]	30	45 MPH	68 F	---			
Mon,09-19-11	832	44 MPH	69 F				

**Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Hilliard
Street: Cosgray Rd - S of Hoffman Farms**

A study of vehicle traffic was conducted with HI-STAR unit number 9887. The study was done in the NB lane at Cosgray Rd - S of Hoffman Farms in Hilliard, OH in Franklin county. The study began on 09-15-11 at 12:00 PM and concluded on 09-19-11 at 12:00 PM, lasting a total of 96.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 15269 vehicles passed through the location with a peak volume of 135 on 09-19-11 at [07:45-08:00] and a minimum volume of 0 on 09-16-11 at [01:00-01:15]. The AADT count for this study was 3,817.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 45 - 50 MPH range or lower. The average speed for all classified vehicles was 49 MPH with 93.60% vehicles exceeding the posted speed of 35 MPH. The HI-STAR found 4.00 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 45MPH and the 85th percentile was 54.95 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to	to	to										
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
0	2	9	9	10	81	864	3546	4979	3485	1642	432	113	46	19				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 6274 which represents 41 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 6099 which represents 40 percent of the total classified vehicles. The number of Trucks and Busses in the study was 2726 which represents 18 percent of the total classified vehicles. The number of Tractor Trailors in the study was 138 which represents 1 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
6274	6099	2726	137	1														

CHART 2

HEADWAY

During the peak traffic period, on 09-19-11 at [07:45-08:00] the average headway between vehicles was 6.618 seconds. During the slowest traffic period, on 09-16-11 at [01:00-01:15] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52.00 and 103.00 degrees F.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu, 09-15-11				
[12:00-12:15]	46	47 MPH	85 F	---
[12:15-12:30]	47	48 MPH	87 F	---
[12:30-12:45]	56	48 MPH	89 F	---
[12:45-13:00]	51	46 MPH	91 F	---
[13:00-13:15]	45	48 MPH	93 F	---
[13:15-13:30]	34	48 MPH	93 F	---
[13:30-13:45]	40	49 MPH	95 F	---
[13:45-14:00]	47	50 MPH	95 F	---
[14:00-14:15]	51	47 MPH	97 F	---
[14:15-14:30]	49	48 MPH	97 F	---
[14:30-14:45]	52	48 MPH	97 F	---
[14:45-15:00]	47	49 MPH	97 F	---
[15:00-15:15]	50	47 MPH	97 F	---
[15:15-15:30]	50	47 MPH	97 F	---
[15:30-15:45]	57	49 MPH	97 F	---
[15:45-16:00]	73	48 MPH	95 F	---
[16:00-16:15]	53	49 MPH	95 F	---
[16:15-16:30]	68	49 MPH	93 F	---
[16:30-16:45]	72	48 MPH	91 F	---
[16:45-17:00]	78	48 MPH	89 F	---
[17:00-17:15]	65	48 MPH	87 F	---
[17:15-17:30]	89	49 MPH	85 F	---
[17:30-17:45]	92	49 MPH	83 F	---
[17:45-18:00]	78	50 MPH	83 F	---
[18:00-18:15]	97	50 MPH	80 F	---
[18:15-18:30]	86	50 MPH	78 F	---
[18:30-18:45]	64	49 MPH	76 F	---
[18:45-19:00]	50	48 MPH	76 F	---
[19:00-19:15]	65	49 MPH	74 F	---
[19:15-19:30]	54	50 MPH	72 F	---
[19:30-19:45]	75	48 MPH	70 F	---
[19:45-20:00]	54	49 MPH	68 F	---
[20:00-20:15]	51	46 MPH	66 F	---
[20:15-20:30]	52	48 MPH	66 F	---
[20:30-20:45]	31	49 MPH	64 F	---
[20:45-21:00]	32	46 MPH	64 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[21:00-21:15]	24	47 MPH	62 F	---
[21:15-21:30]	21	46 MPH	62 F	---
[21:30-21:45]	32	47 MPH	60 F	---
[21:45-22:00]	23	44 MPH	60 F	---
[22:00-22:15]	17	48 MPH	60 F	---
[22:15-22:30]	13	49 MPH	58 F	---
[22:30-22:45]	16	44 MPH	58 F	---
[22:45-23:00]	12	47 MPH	58 F	---
[23:00-23:15]	5	50 MPH	56 F	---
[23:15-23:30]	5	53 MPH	56 F	---
[23:30-23:45]	5	50 MPH	56 F	---
[23:45-00:00]	7	51 MPH	56 F	---
Thu,09-15-11	2281	48 MPH	78 F	
Fri,09-16-11				
[00:00-00:15]	8	46 MPH	54 F	---
[00:15-00:30]	2	50 MPH	54 F	---
[00:30-00:45]	3	47 MPH	54 F	---
[00:45-01:00]	1	52 MPH	54 F	---
[01:00-01:15]	0	0 MPH	54 F	---
[01:15-01:30]	2	52 MPH	52 F	---
[01:30-01:45]	0	0 MPH	52 F	---
[01:45-02:00]	2	53 MPH	52 F	---
[02:00-02:15]	1	58 MPH	52 F	---
[02:15-02:30]	1	42 MPH	52 F	---
[02:30-02:45]	1	42 MPH	52 F	---
[02:45-03:00]	2	47 MPH	52 F	---
[03:00-03:15]	1	58 MPH	52 F	---
[03:15-03:30]	0	0 MPH	52 F	---
[03:30-03:45]	1	38 MPH	52 F	---
[03:45-04:00]	3	46 MPH	52 F	---
[04:00-04:15]	2	45 MPH	52 F	---
[04:15-04:30]	7	51 MPH	52 F	---
[04:30-04:45]	9	49 MPH	52 F	---
[04:45-05:00]	11	47 MPH	52 F	---
[05:00-05:15]	8	47 MPH	52 F	---
[05:15-05:30]	15	48 MPH	52 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri, 09-16-11				
[05:30-05:45]	22	48 MPH	52 F	---
[05:45-06:00]	27	48 MPH	52 F	---
[06:00-06:15]	30	47 MPH	52 F	---
[06:15-06:30]	29	48 MPH	52 F	---
[06:30-06:45]	53	47 MPH	52 F	---
[06:45-07:00]	57	47 MPH	52 F	---
[07:00-07:15]	91	48 MPH	52 F	---
[07:15-07:30]	88	49 MPH	52 F	---
[07:30-07:45]	124	47 MPH	52 F	---
[07:45-08:00]	124	48 MPH	52 F	---
[08:00-08:15]	105	49 MPH	52 F	---
[08:15-08:30]	86	48 MPH	54 F	---
[08:30-08:45]	73	46 MPH	56 F	---
[08:45-09:00]	92	48 MPH	56 F	---
[09:00-09:15]	62	49 MPH	58 F	---
[09:15-09:30]	48	49 MPH	60 F	---
[09:30-09:45]	43	47 MPH	62 F	---
[09:45-10:00]	32	47 MPH	66 F	---
[10:00-10:15]	33	50 MPH	72 F	---
[10:15-10:30]	40	50 MPH	74 F	---
[10:30-10:45]	44	49 MPH	72 F	---
[10:45-11:00]	49	50 MPH	72 F	---
[11:00-11:15]	43	47 MPH	72 F	---
[11:15-11:30]	44	49 MPH	72 F	---
[11:30-11:45]	46	50 MPH	72 F	---
[11:45-12:00]	52	48 MPH	74 F	---
[12:00-12:15]	59	49 MPH	74 F	---
[12:15-12:30]	35	51 MPH	76 F	---
[12:30-12:45]	43	49 MPH	76 F	---
[12:45-13:00]	52	47 MPH	80 F	---
[13:00-13:15]	43	47 MPH	87 F	---
[13:15-13:30]	41	47 MPH	89 F	---
[13:30-13:45]	48	48 MPH	87 F	---
[13:45-14:00]	39	49 MPH	91 F	---
[14:00-14:15]	43	50 MPH	93 F	---
[14:15-14:30]	34	47 MPH	97 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri, 09-16-11				
[14:30-14:45]	49	49 MPH	97 F	---
[14:45-15:00]	50	49 MPH	93 F	---
[15:00-15:15]	51	47 MPH	93 F	---
[15:15-15:30]	48	50 MPH	95 F	---
[15:30-15:45]	66	46 MPH	93 F	---
[15:45-16:00]	78	47 MPH	91 F	---
[16:00-16:15]	61	49 MPH	89 F	---
[16:15-16:30]	68	46 MPH	87 F	---
[16:30-16:45]	80	49 MPH	85 F	---
[16:45-17:00]	83	47 MPH	83 F	---
[17:00-17:15]	93	48 MPH	83 F	---
[17:15-17:30]	96	48 MPH	82 F	---
[17:30-17:45]	91	48 MPH	80 F	---
[17:45-18:00]	70	51 MPH	78 F	---
[18:00-18:15]	83	49 MPH	76 F	---
[18:15-18:30]	101	49 MPH	76 F	---
[18:30-18:45]	102	49 MPH	76 F	---
[18:45-19:00]	65	48 MPH	74 F	---
[19:00-19:15]	76	47 MPH	74 F	---
[19:15-19:30]	59	48 MPH	72 F	---
[19:30-19:45]	55	48 MPH	70 F	---
[19:45-20:00]	41	48 MPH	70 F	---
[20:00-20:15]	36	48 MPH	70 F	---
[20:15-20:30]	33	47 MPH	68 F	---
[20:30-20:45]	35	50 MPH	68 F	---
[20:45-21:00]	31	47 MPH	68 F	---
[21:00-21:15]	34	50 MPH	66 F	---
[21:15-21:30]	30	48 MPH	66 F	---
[21:30-21:45]	25	49 MPH	64 F	---
[21:45-22:00]	52	46 MPH	64 F	---
[22:00-22:15]	22	49 MPH	64 F	---
[22:15-22:30]	34	47 MPH	64 F	---
[22:30-22:45]	23	47 MPH	64 F	---
[22:45-23:00]	14	46 MPH	64 F	---
[23:00-23:15]	21	48 MPH	64 F	---
[23:15-23:30]	10	49 MPH	64 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817
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Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry
Fri, 09-16-11				
[23:30-23:45]	9	51 MPH	62 F	---
[23:45-00:00]	8	51 MPH	62 F	---
Fri, 09-16-11		4037	48 MPH	67 F
Sat, 09-17-11				
[00:00-00:15]	3	43 MPH	62 F	---
[00:15-00:30]	9	41 MPH	62 F	---
[00:30-00:45]	7	49 MPH	62 F	---
[00:45-01:00]	3	47 MPH	62 F	---
[01:00-01:15]	3	56 MPH	62 F	---
[01:15-01:30]	3	49 MPH	62 F	---
[01:30-01:45]	1	42 MPH	62 F	---
[01:45-02:00]	3	46 MPH	62 F	---
[02:00-02:15]	2	50 MPH	60 F	---
[02:15-02:30]	7	47 MPH	60 F	---
[02:30-02:45]	2	58 MPH	60 F	---
[02:45-03:00]	4	53 MPH	60 F	---
[03:00-03:15]	1	52 MPH	60 F	---
[03:15-03:30]	1	52 MPH	60 F	---
[03:30-03:45]	2	45 MPH	60 F	---
[03:45-04:00]	3	53 MPH	60 F	---
[04:00-04:15]	1	48 MPH	60 F	---
[04:15-04:30]	1	48 MPH	60 F	---
[04:30-04:45]	6	48 MPH	60 F	---
[04:45-05:00]	7	48 MPH	58 F	---
[05:00-05:15]	9	49 MPH	58 F	---
[05:15-05:30]	6	52 MPH	58 F	---
[05:30-05:45]	7	52 MPH	58 F	---
[05:45-06:00]	3	47 MPH	58 F	---
[06:00-06:15]	6	51 MPH	56 F	---
[06:15-06:30]	6	46 MPH	56 F	---
[06:30-06:45]	20	48 MPH	56 F	---
[06:45-07:00]	29	51 MPH	56 F	---
[07:00-07:15]	34	52 MPH	56 F	---
[07:15-07:30]	35	51 MPH	56 F	---
[07:30-07:45]	34	51 MPH	58 F	---
[07:45-08:00]	42	50 MPH	58 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat,09-17-11

[08:00-08:15]	60	50 MPH	58 F	---
[08:15-08:30]	58	50 MPH	58 F	---
[08:30-08:45]	63	48 MPH	60 F	---
[08:45-09:00]	64	50 MPH	62 F	---
[09:00-09:15]	56	49 MPH	64 F	---
[09:15-09:30]	56	49 MPH	66 F	---
[09:30-09:45]	46	49 MPH	68 F	---
[09:45-10:00]	59	50 MPH	72 F	---
[10:00-10:15]	77	48 MPH	76 F	---
[10:15-10:30]	72	49 MPH	76 F	---
[10:30-10:45]	89	50 MPH	82 F	---
[10:45-11:00]	71	51 MPH	83 F	---
[11:00-11:15]	85	49 MPH	85 F	---
[11:15-11:30]	95	47 MPH	87 F	---
[11:30-11:45]	79	47 MPH	91 F	---
[11:45-12:00]	80	49 MPH	93 F	---
[12:00-12:15]	85	48 MPH	95 F	---
[12:15-12:30]	82	48 MPH	97 F	---
[12:30-12:45]	80	46 MPH	97 F	---
[12:45-13:00]	75	48 MPH	99 F	---
[13:00-13:15]	60	49 MPH	101 F	---
[13:15-13:30]	79	49 MPH	99 F	---
[13:30-13:45]	75	49 MPH	95 F	---
[13:45-14:00]	97	48 MPH	95 F	---
[14:00-14:15]	81	48 MPH	91 F	---
[14:15-14:30]	62	50 MPH	89 F	---
[14:30-14:45]	75	50 MPH	97 F	---
[14:45-15:00]	79	51 MPH	97 F	---
[15:00-15:15]	66	51 MPH	97 F	---
[15:15-15:30]	63	51 MPH	101 F	---
[15:30-15:45]	71	49 MPH	101 F	---
[15:45-16:00]	80	48 MPH	101 F	---
[16:00-16:15]	68	49 MPH	101 F	---
[16:15-16:30]	71	51 MPH	101 F	---
[16:30-16:45]	92	49 MPH	101 F	---
[16:45-17:00]	64	49 MPH	97 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat,09-17-11

[17:00-17:15]	62	51 MPH	95 F	---
[17:15-17:30]	68	50 MPH	93 F	---
[17:30-17:45]	75	48 MPH	91 F	---
[17:45-18:00]	60	49 MPH	87 F	---
[18:00-18:15]	72	48 MPH	85 F	---
[18:15-18:30]	71	50 MPH	83 F	---
[18:30-18:45]	46	51 MPH	82 F	---
[18:45-19:00]	62	48 MPH	80 F	---
[19:00-19:15]	59	50 MPH	80 F	---
[19:15-19:30]	65	48 MPH	78 F	---
[19:30-19:45]	60	47 MPH	76 F	---
[19:45-20:00]	36	47 MPH	76 F	---
[20:00-20:15]	57	46 MPH	76 F	---
[20:15-20:30]	39	48 MPH	76 F	---
[20:30-20:45]	62	48 MPH	74 F	---
[20:45-21:00]	36	50 MPH	72 F	---
[21:00-21:15]	22	49 MPH	72 F	---
[21:15-21:30]	19	46 MPH	70 F	---
[21:30-21:45]	14	49 MPH	70 F	---
[21:45-22:00]	12	47 MPH	68 F	---
[22:00-22:15]	11	48 MPH	68 F	---
[22:15-22:30]	21	46 MPH	66 F	---
[22:30-22:45]	22	48 MPH	66 F	---
[22:45-23:00]	29	46 MPH	66 F	---
[23:00-23:15]	24	48 MPH	66 F	---
[23:15-23:30]	12	44 MPH	64 F	---
[23:30-23:45]	11	52 MPH	64 F	---
[23:45-00:00]	5	44 MPH	64 F	---

Sat,09-17-11

4047

49 MPH

74 F

Sun,09-18-11

[00:00-00:15]	10	46 MPH	64 F	---
[00:15-00:30]	4	49 MPH	62 F	---
[00:30-00:45]	6	48 MPH	62 F	---
[00:45-01:00]	9	48 MPH	62 F	---
[01:00-01:15]	4	43 MPH	62 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[01:15-01:30]	2	45 MPH	60 F	---
[01:30-01:45]	6	42 MPH	60 F	---
[01:45-02:00]	2	50 MPH	60 F	---
[02:00-02:15]	5	44 MPH	60 F	---
[02:15-02:30]	5	50 MPH	60 F	---
[02:30-02:45]	1	48 MPH	58 F	---
[02:45-03:00]	2	62 MPH	58 F	---
[03:00-03:15]	4	53 MPH	58 F	---
[03:15-03:30]	1	52 MPH	58 F	---
[03:30-03:45]	2	47 MPH	58 F	---
[03:45-04:00]	2	65 MPH	58 F	---
[04:00-04:15]	1	42 MPH	56 F	---
[04:15-04:30]	0	0 MPH	56 F	---
[04:30-04:45]	1	42 MPH	56 F	---
[04:45-05:00]	0	0 MPH	56 F	---
[05:00-05:15]	1	48 MPH	56 F	---
[05:15-05:30]	2	45 MPH	56 F	---
[05:30-05:45]	2	58 MPH	56 F	---
[05:45-06:00]	1	48 MPH	56 F	---
[06:00-06:15]	3	56 MPH	56 F	---
[06:15-06:30]	4	47 MPH	56 F	---
[06:30-06:45]	14	50 MPH	54 F	---
[06:45-07:00]	23	51 MPH	54 F	---
[07:00-07:15]	13	54 MPH	54 F	---
[07:15-07:30]	11	53 MPH	54 F	---
[07:30-07:45]	15	51 MPH	54 F	---
[07:45-08:00]	34	53 MPH	56 F	---
[08:00-08:15]	21	52 MPH	56 F	---
[08:15-08:30]	19	52 MPH	56 F	---
[08:30-08:45]	24	51 MPH	60 F	---
[08:45-09:00]	40	50 MPH	64 F	---
[09:00-09:15]	47	49 MPH	68 F	---
[09:15-09:30]	53	49 MPH	72 F	---
[09:30-09:45]	56	48 MPH	74 F	---
[09:45-10:00]	52	48 MPH	76 F	---
[10:00-10:15]	56	49 MPH	78 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun, 09-18-11				
[10:15-10:30]	81	50 MPH	80 F	---
[10:30-10:45]	88	46 MPH	83 F	---
[10:45-11:00]	63	50 MPH	85 F	---
[11:00-11:15]	58	49 MPH	89 F	---
[11:15-11:30]	80	49 MPH	91 F	---
[11:30-11:45]	73	48 MPH	93 F	---
[11:45-12:00]	63	49 MPH	95 F	---
[12:00-12:15]	68	48 MPH	97 F	---
[12:15-12:30]	79	50 MPH	97 F	---
[12:30-12:45]	98	47 MPH	99 F	---
[12:45-13:00]	77	49 MPH	101 F	---
[13:00-13:15]	94	49 MPH	103 F	---
[13:15-13:30]	76	51 MPH	97 F	---
[13:30-13:45]	80	48 MPH	97 F	---
[13:45-14:00]	72	50 MPH	97 F	---
[14:00-14:15]	98	47 MPH	101 F	---
[14:15-14:30]	84	47 MPH	101 F	---
[14:30-14:45]	65	49 MPH	101 F	---
[14:45-15:00]	75	49 MPH	97 F	---
[15:00-15:15]	78	48 MPH	97 F	---
[15:15-15:30]	55	50 MPH	95 F	---
[15:30-15:45]	67	50 MPH	93 F	---
[15:45-16:00]	50	47 MPH	95 F	---
[16:00-16:15]	61	50 MPH	95 F	---
[16:15-16:30]	75	48 MPH	97 F	---
[16:30-16:45]	69	50 MPH	97 F	---
[16:45-17:00]	64	48 MPH	93 F	---
[17:00-17:15]	97	50 MPH	91 F	---
[17:15-17:30]	60	49 MPH	89 F	---
[17:30-17:45]	60	49 MPH	87 F	---
[17:45-18:00]	58	48 MPH	85 F	---
[18:00-18:15]	61	49 MPH	83 F	---
[18:15-18:30]	41	48 MPH	82 F	---
[18:30-18:45]	41	49 MPH	82 F	---
[18:45-19:00]	51	50 MPH	80 F	---
[19:00-19:15]	55	49 MPH	80 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[19:15-19:30]	52	48 MPH	78 F	---
[19:30-19:45]	41	47 MPH	78 F	---
[19:45-20:00]	44	48 MPH	78 F	---
[20:00-20:15]	38	47 MPH	76 F	---
[20:15-20:30]	40	47 MPH	76 F	---
[20:30-20:45]	20	47 MPH	76 F	---
[20:45-21:00]	21	44 MPH	76 F	---
[21:00-21:15]	24	47 MPH	76 F	---
[21:15-21:30]	14	46 MPH	76 F	---
[21:30-21:45]	18	48 MPH	76 F	---
[21:45-22:00]	7	44 MPH	76 F	---
[22:00-22:15]	11	49 MPH	76 F	---
[22:15-22:30]	13	51 MPH	76 F	---
[22:30-22:45]	5	48 MPH	74 F	---
[22:45-23:00]	4	49 MPH	74 F	---
[23:00-23:15]	4	46 MPH	74 F	---
[23:15-23:30]	3	52 MPH	74 F	---
[23:30-23:45]	5	50 MPH	74 F	---
[23:45-00:00]	2	48 MPH	74 F	---
Sun,09-18-11	3439	49 MPH	75 F	
Mon,09-19-11				
[00:00-00:15]	4	48 MPH	74 F	---
[00:15-00:30]	2	45 MPH	72 F	---
[00:30-00:45]	0	0 MPH	72 F	---
[00:45-01:00]	2	53 MPH	72 F	---
[01:00-01:15]	0	0 MPH	72 F	---
[01:15-01:30]	0	0 MPH	72 F	---
[01:30-01:45]	2	52 MPH	72 F	---
[01:45-02:00]	0	0 MPH	70 F	---
[02:00-02:15]	0	0 MPH	70 F	---
[02:15-02:30]	0	0 MPH	70 F	---
[02:30-02:45]	2	60 MPH	70 F	---
[02:45-03:00]	0	0 MPH	70 F	---
[03:00-03:15]	1	52 MPH	70 F	---
[03:15-03:30]	1	42 MPH	70 F	---
[03:30-03:45]	2	40 MPH	70 F	---

Date/Time/Volume/Average Speed/Temperature Report

Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> HI-Star ID: 9887 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin </div> <div> Begin: 09-15-11 12:00 PM Lane: NB Oper: MEW Posted: 35 AADT Factor: 1 </div> <div> End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15269 AADT Count: 3,817 </div> </div>				
Mon,09-19-11				
[03:45-04:00]	0	0 MPH	70 F	---
[04:00-04:15]	1	42 MPH	68 F	---
[04:15-04:30]	3	51 MPH	68 F	---
[04:30-04:45]	7	50 MPH	68 F	---
[04:45-05:00]	6	50 MPH	68 F	---
[05:00-05:15]	8	47 MPH	68 F	---
[05:15-05:30]	17	47 MPH	68 F	---
[05:30-05:45]	23	45 MPH	68 F	---
[05:45-06:00]	21	48 MPH	66 F	---
[06:00-06:15]	26	47 MPH	66 F	---
[06:15-06:30]	32	47 MPH	66 F	---
[06:30-06:45]	53	48 MPH	66 F	---
[06:45-07:00]	73	48 MPH	66 F	---
[07:00-07:15]	84	48 MPH	66 F	---
[07:15-07:30]	84	48 MPH	66 F	---
[07:30-07:45]	127	48 MPH	66 F	---
[07:45-08:00]	135	48 MPH	66 F	---
[08:00-08:15]	90	49 MPH	66 F	---
[08:15-08:30]	84	48 MPH	68 F	---
[08:30-08:45]	74	48 MPH	68 F	---
[08:45-09:00]	65	49 MPH	68 F	---
[09:00-09:15]	48	49 MPH	68 F	---
[09:15-09:30]	42	50 MPH	68 F	---
[09:30-09:45]	43	48 MPH	70 F	---
[09:45-10:00]	33	51 MPH	68 F	---
[10:00-10:15]	26	47 MPH	68 F	---
[10:15-10:30]	38	49 MPH	68 F	---
[10:30-10:45]	26	47 MPH	70 F	---
[10:45-11:00]	38	46 MPH	70 F	---
[11:00-11:15]	28	46 MPH	70 F	---
[11:15-11:30]	31	48 MPH	68 F	---
[11:30-11:45]	38	48 MPH	68 F	---
[11:45-12:00]	45	50 MPH	68 F	---
Mon,09-19-11	1465	48 MPH	69 F	

**Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Hilliard
Street: Cosgray Rd - S of Hoffman Farms**

A study of vehicle traffic was conducted with HI-STAR unit number 7060. The study was done in the SB lane at Cosgray Rd - S of Hoffman Farms in Hilliard, OH in Franklin county. The study began on 09-15-11 at 12:00 PM and concluded on 09-19-11 at 12:00 PM, lasting a total of 96.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 15661 vehicles passed through the location with a peak volume of 177 on 09-15-11 at [17:15-17:30] and a minimum volume of 0 on 09-16-11 at [01:00-01:15]. The AADT count for this study was 3,915.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 40 - 45 MPH range or lower. The average speed for all classified vehicles was 45 MPH with 81.68% vehicles exceeding the posted speed of 35 MPH. The HI-STAR found 2.04 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 40MPH and the 85th percentile was 51.25 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to	to	to	to	to	to	to	to	to				
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
0	15	12	24	59	369	2372	5335	4561	1927	574	195	72	33	17				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 9222 which represents 59 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 4633 which represents 30 percent of the total classified vehicles. The number of Trucks and Busses in the study was 1551 which represents 10 percent of the total classified vehicles. The number of Tractor Trailors in the study was 159 which represents 1 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
9222	4633	1551	158	1														

CHART 2

HEADWAY

During the peak traffic period, on 09-15-11 at [17:15-17:30] the average headway between vehicles was 5.056 seconds. During the slowest traffic period, on 09-16-11 at [01:00-01:15] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52.00 and 101.00 degrees F.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[12:00-12:15]	56	38 MPH	83 F	---
[12:15-12:30]	38	44 MPH	85 F	---
[12:30-12:45]	51	46 MPH	87 F	---
[12:45-13:00]	36	45 MPH	89 F	---
[13:00-13:15]	51	45 MPH	91 F	---
[13:15-13:30]	25	45 MPH	93 F	---
[13:30-13:45]	38	45 MPH	93 F	---
[13:45-14:00]	35	46 MPH	95 F	---
[14:00-14:15]	54	46 MPH	95 F	---
[14:15-14:30]	50	47 MPH	97 F	---
[14:30-14:45]	58	45 MPH	95 F	---
[14:45-15:00]	62	44 MPH	97 F	---
[15:00-15:15]	52	45 MPH	97 F	---
[15:15-15:30]	65	44 MPH	97 F	---
[15:30-15:45]	78	43 MPH	95 F	---
[15:45-16:00]	103	44 MPH	95 F	---
[16:00-16:15]	91	45 MPH	95 F	---
[16:15-16:30]	97	46 MPH	93 F	---
[16:30-16:45]	100	46 MPH	91 F	---
[16:45-17:00]	144	46 MPH	89 F	---
[17:00-17:15]	154	46 MPH	87 F	---
[17:15-17:30]	177	45 MPH	87 F	---
[17:30-17:45]	165	46 MPH	85 F	---
[17:45-18:00]	160	46 MPH	83 F	---
[18:00-18:15]	113	47 MPH	82 F	---
[18:15-18:30]	108	45 MPH	80 F	---
[18:30-18:45]	85	44 MPH	78 F	---
[18:45-19:00]	78	45 MPH	76 F	---
[19:00-19:15]	67	44 MPH	74 F	---
[19:15-19:30]	68	45 MPH	72 F	---
[19:30-19:45]	58	45 MPH	70 F	---
[19:45-20:00]	57	45 MPH	68 F	---
[20:00-20:15]	71	45 MPH	66 F	---
[20:15-20:30]	57	43 MPH	66 F	---
[20:30-20:45]	52	45 MPH	64 F	---
[20:45-21:00]	43	44 MPH	64 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[21:00-21:15]	26	44 MPH	62 F	---
[21:15-21:30]	37	44 MPH	62 F	---
[21:30-21:45]	27	45 MPH	60 F	---
[21:45-22:00]	16	46 MPH	60 F	---
[22:00-22:15]	17	43 MPH	60 F	---
[22:15-22:30]	19	46 MPH	58 F	---
[22:30-22:45]	12	47 MPH	58 F	---
[22:45-23:00]	11	47 MPH	58 F	---
[23:00-23:15]	11	43 MPH	56 F	---
[23:15-23:30]	2	53 MPH	56 F	---
[23:30-23:45]	6	52 MPH	56 F	---
[23:45-00:00]	9	45 MPH	56 F	---
Thu,09-15-11	2990	45 MPH	78 F	
Fri,09-16-11				
[00:00-00:15]	7	42 MPH	54 F	---
[00:15-00:30]	2	43 MPH	54 F	---
[00:30-00:45]	3	44 MPH	54 F	---
[00:45-01:00]	1	38 MPH	54 F	---
[01:00-01:15]	0	0 MPH	54 F	---
[01:15-01:30]	2	48 MPH	54 F	---
[01:30-01:45]	7	45 MPH	52 F	---
[01:45-02:00]	4	44 MPH	52 F	---
[02:00-02:15]	4	44 MPH	52 F	---
[02:15-02:30]	3	49 MPH	52 F	---
[02:30-02:45]	3	44 MPH	52 F	---
[02:45-03:00]	2	43 MPH	52 F	---
[03:00-03:15]	1	52 MPH	52 F	---
[03:15-03:30]	1	32 MPH	52 F	---
[03:30-03:45]	0	0 MPH	52 F	---
[03:45-04:00]	0	0 MPH	52 F	---
[04:00-04:15]	2	47 MPH	52 F	---
[04:15-04:30]	1	32 MPH	52 F	---
[04:30-04:45]	5	44 MPH	52 F	---
[04:45-05:00]	5	40 MPH	52 F	---
[05:00-05:15]	3	43 MPH	52 F	---
[05:15-05:30]	4	47 MPH	52 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[05:30-05:45]	12	45 MPH	52 F	---
[05:45-06:00]	16	43 MPH	52 F	---
[06:00-06:15]	18	44 MPH	52 F	---
[06:15-06:30]	18	42 MPH	52 F	---
[06:30-06:45]	26	41 MPH	52 F	---
[06:45-07:00]	29	44 MPH	52 F	---
[07:00-07:15]	59	44 MPH	52 F	---
[07:15-07:30]	46	45 MPH	52 F	---
[07:30-07:45]	68	45 MPH	52 F	---
[07:45-08:00]	69	47 MPH	52 F	---
[08:00-08:15]	48	44 MPH	54 F	---
[08:15-08:30]	53	46 MPH	54 F	---
[08:30-08:45]	44	47 MPH	56 F	---
[08:45-09:00]	52	43 MPH	58 F	---
[09:00-09:15]	43	43 MPH	58 F	---
[09:15-09:30]	37	44 MPH	60 F	---
[09:30-09:45]	24	45 MPH	62 F	---
[09:45-10:00]	40	46 MPH	64 F	---
[10:00-10:15]	25	45 MPH	72 F	---
[10:15-10:30]	43	45 MPH	74 F	---
[10:30-10:45]	34	45 MPH	72 F	---
[10:45-11:00]	50	44 MPH	72 F	---
[11:00-11:15]	45	46 MPH	72 F	---
[11:15-11:30]	38	47 MPH	72 F	---
[11:30-11:45]	38	45 MPH	72 F	---
[11:45-12:00]	39	45 MPH	74 F	---
[12:00-12:15]	32	45 MPH	74 F	---
[12:15-12:30]	42	45 MPH	76 F	---
[12:30-12:45]	47	46 MPH	76 F	---
[12:45-13:00]	34	45 MPH	80 F	---
[13:00-13:15]	40	46 MPH	87 F	---
[13:15-13:30]	44	45 MPH	89 F	---
[13:30-13:45]	38	46 MPH	87 F	---
[13:45-14:00]	64	43 MPH	89 F	---
[14:00-14:15]	51	42 MPH	93 F	---
[14:15-14:30]	41	46 MPH	97 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri, 09-16-11				
[14:30-14:45]	61	44 MPH	97 F	---
[14:45-15:00]	65	45 MPH	93 F	---
[15:00-15:15]	70	47 MPH	91 F	---
[15:15-15:30]	69	43 MPH	93 F	---
[15:30-15:45]	88	45 MPH	93 F	---
[15:45-16:00]	88	43 MPH	89 F	---
[16:00-16:15]	114	44 MPH	89 F	---
[16:15-16:30]	99	44 MPH	85 F	---
[16:30-16:45]	124	44 MPH	83 F	---
[16:45-17:00]	144	45 MPH	82 F	---
[17:00-17:15]	154	45 MPH	82 F	---
[17:15-17:30]	174	45 MPH	80 F	---
[17:30-17:45]	115	45 MPH	78 F	---
[17:45-18:00]	120	46 MPH	76 F	---
[18:00-18:15]	123	46 MPH	76 F	---
[18:15-18:30]	127	44 MPH	76 F	---
[18:30-18:45]	78	48 MPH	76 F	---
[18:45-19:00]	80	45 MPH	74 F	---
[19:00-19:15]	70	45 MPH	72 F	---
[19:15-19:30]	73	45 MPH	72 F	---
[19:30-19:45]	75	45 MPH	70 F	---
[19:45-20:00]	69	45 MPH	70 F	---
[20:00-20:15]	43	43 MPH	68 F	---
[20:15-20:30]	54	45 MPH	68 F	---
[20:30-20:45]	32	44 MPH	68 F	---
[20:45-21:00]	26	44 MPH	66 F	---
[21:00-21:15]	41	44 MPH	66 F	---
[21:15-21:30]	42	46 MPH	66 F	---
[21:30-21:45]	30	45 MPH	64 F	---
[21:45-22:00]	29	45 MPH	64 F	---
[22:00-22:15]	22	44 MPH	64 F	---
[22:15-22:30]	24	46 MPH	64 F	---
[22:30-22:45]	33	44 MPH	64 F	---
[22:45-23:00]	14	46 MPH	64 F	---
[23:00-23:15]	18	46 MPH	62 F	---
[23:15-23:30]	21	45 MPH	62 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[23:30-23:45]	6	48 MPH	62 F	---
[23:45-00:00]	8	41 MPH	62 F	---
Fri,09-16-11	4130	45 MPH	67 F	
Sat,09-17-11				
[00:00-00:15]	10	48 MPH	62 F	---
[00:15-00:30]	6	45 MPH	62 F	---
[00:30-00:45]	13	49 MPH	62 F	---
[00:45-01:00]	9	44 MPH	62 F	---
[01:00-01:15]	6	51 MPH	62 F	---
[01:15-01:30]	5	44 MPH	62 F	---
[01:30-01:45]	6	50 MPH	60 F	---
[01:45-02:00]	1	42 MPH	60 F	---
[02:00-02:15]	1	48 MPH	60 F	---
[02:15-02:30]	6	44 MPH	60 F	---
[02:30-02:45]	4	47 MPH	60 F	---
[02:45-03:00]	2	43 MPH	60 F	---
[03:00-03:15]	0	0 MPH	60 F	---
[03:15-03:30]	2	40 MPH	60 F	---
[03:30-03:45]	1	42 MPH	60 F	---
[03:45-04:00]	0	0 MPH	60 F	---
[04:00-04:15]	0	0 MPH	60 F	---
[04:15-04:30]	2	40 MPH	60 F	---
[04:30-04:45]	3	44 MPH	60 F	---
[04:45-05:00]	1	38 MPH	58 F	---
[05:00-05:15]	3	49 MPH	58 F	---
[05:15-05:30]	2	50 MPH	58 F	---
[05:30-05:45]	2	52 MPH	58 F	---
[05:45-06:00]	4	44 MPH	58 F	---
[06:00-06:15]	2	47 MPH	56 F	---
[06:15-06:30]	6	46 MPH	56 F	---
[06:30-06:45]	11	47 MPH	56 F	---
[06:45-07:00]	10	46 MPH	56 F	---
[07:00-07:15]	13	46 MPH	56 F	---
[07:15-07:30]	21	45 MPH	56 F	---
[07:30-07:45]	20	48 MPH	58 F	---
[07:45-08:00]	40	45 MPH	58 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin		Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1		End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915	
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry	

Sat,09-17-11

[08:00-08:15]	32	47 MPH	58 F	---
[08:15-08:30]	37	46 MPH	58 F	---
[08:30-08:45]	42	45 MPH	60 F	---
[08:45-09:00]	62	47 MPH	62 F	---
[09:00-09:15]	80	47 MPH	64 F	---
[09:15-09:30]	51	47 MPH	64 F	---
[09:30-09:45]	53	46 MPH	66 F	---
[09:45-10:00]	63	47 MPH	70 F	---
[10:00-10:15]	102	45 MPH	74 F	---
[10:15-10:30]	77	47 MPH	74 F	---
[10:30-10:45]	84	44 MPH	78 F	---
[10:45-11:00]	74	45 MPH	80 F	---
[11:00-11:15]	95	47 MPH	83 F	---
[11:15-11:30]	91	45 MPH	85 F	---
[11:30-11:45]	60	45 MPH	87 F	---
[11:45-12:00]	61	46 MPH	91 F	---
[12:00-12:15]	58	47 MPH	93 F	---
[12:15-12:30]	85	46 MPH	95 F	---
[12:30-12:45]	83	45 MPH	97 F	---
[12:45-13:00]	73	46 MPH	97 F	---
[13:00-13:15]	71	45 MPH	97 F	---
[13:15-13:30]	76	45 MPH	97 F	---
[13:30-13:45]	76	45 MPH	93 F	---
[13:45-14:00]	59	47 MPH	93 F	---
[14:00-14:15]	82	46 MPH	89 F	---
[14:15-14:30]	83	46 MPH	89 F	---
[14:30-14:45]	79	45 MPH	95 F	---
[14:45-15:00]	96	46 MPH	95 F	---
[15:00-15:15]	106	45 MPH	97 F	---
[15:15-15:30]	77	45 MPH	99 F	---
[15:30-15:45]	76	45 MPH	99 F	---
[15:45-16:00]	76	44 MPH	99 F	---
[16:00-16:15]	67	46 MPH	99 F	---
[16:15-16:30]	75	47 MPH	99 F	---
[16:30-16:45]	80	46 MPH	99 F	---
[16:45-17:00]	73	46 MPH	97 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin		Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1		End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915	
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry	

Sat,09-17-11

[17:00-17:15]	63	47 MPH	95 F	---
[17:15-17:30]	65	46 MPH	93 F	---
[17:30-17:45]	91	45 MPH	91 F	---
[17:45-18:00]	93	46 MPH	87 F	---
[18:00-18:15]	83	44 MPH	85 F	---
[18:15-18:30]	77	46 MPH	83 F	---
[18:30-18:45]	71	46 MPH	82 F	---
[18:45-19:00]	88	44 MPH	80 F	---
[19:00-19:15]	80	45 MPH	78 F	---
[19:15-19:30]	56	44 MPH	78 F	---
[19:30-19:45]	52	44 MPH	76 F	---
[19:45-20:00]	66	44 MPH	76 F	---
[20:00-20:15]	54	42 MPH	76 F	---
[20:15-20:30]	45	43 MPH	74 F	---
[20:30-20:45]	27	47 MPH	74 F	---
[20:45-21:00]	28	45 MPH	72 F	---
[21:00-21:15]	24	45 MPH	70 F	---
[21:15-21:30]	14	45 MPH	70 F	---
[21:30-21:45]	27	45 MPH	68 F	---
[21:45-22:00]	16	46 MPH	68 F	---
[22:00-22:15]	26	43 MPH	68 F	---
[22:15-22:30]	21	43 MPH	66 F	---
[22:30-22:45]	29	42 MPH	66 F	---
[22:45-23:00]	20	43 MPH	66 F	---
[23:00-23:15]	24	44 MPH	64 F	---
[23:15-23:30]	17	42 MPH	64 F	---
[23:30-23:45]	11	44 MPH	64 F	---
[23:45-00:00]	16	43 MPH	64 F	---

Sat,09-17-11

4111 45 MPH 74 F

Sun,09-18-11

[00:00-00:15]	9	43 MPH	62 F	---
[00:15-00:30]	23	45 MPH	62 F	---
[00:30-00:45]	19	46 MPH	62 F	---
[00:45-01:00]	7	46 MPH	62 F	---
[01:00-01:15]	8	45 MPH	60 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[01:15-01:30]	5	48 MPH	60 F	---
[01:30-01:45]	3	43 MPH	60 F	---
[01:45-02:00]	5	41 MPH	60 F	---
[02:00-02:15]	7	45 MPH	60 F	---
[02:15-02:30]	0	0 MPH	58 F	---
[02:30-02:45]	4	47 MPH	58 F	---
[02:45-03:00]	0	0 MPH	58 F	---
[03:00-03:15]	3	46 MPH	58 F	---
[03:15-03:30]	2	45 MPH	58 F	---
[03:30-03:45]	1	48 MPH	58 F	---
[03:45-04:00]	0	0 MPH	58 F	---
[04:00-04:15]	1	32 MPH	58 F	---
[04:15-04:30]	0	0 MPH	56 F	---
[04:30-04:45]	1	28 MPH	56 F	---
[04:45-05:00]	0	0 MPH	56 F	---
[05:00-05:15]	0	0 MPH	56 F	---
[05:15-05:30]	1	42 MPH	56 F	---
[05:30-05:45]	2	60 MPH	56 F	---
[05:45-06:00]	1	52 MPH	56 F	---
[06:00-06:15]	3	44 MPH	56 F	---
[06:15-06:30]	5	45 MPH	56 F	---
[06:30-06:45]	7	45 MPH	56 F	---
[06:45-07:00]	16	45 MPH	56 F	---
[07:00-07:15]	15	49 MPH	54 F	---
[07:15-07:30]	7	57 MPH	54 F	---
[07:30-07:45]	15	48 MPH	56 F	---
[07:45-08:00]	11	45 MPH	56 F	---
[08:00-08:15]	18	48 MPH	56 F	---
[08:15-08:30]	20	45 MPH	56 F	---
[08:30-08:45]	42	48 MPH	60 F	---
[08:45-09:00]	49	46 MPH	62 F	---
[09:00-09:15]	48	47 MPH	66 F	---
[09:15-09:30]	33	49 MPH	68 F	---
[09:30-09:45]	34	48 MPH	72 F	---
[09:45-10:00]	36	46 MPH	74 F	---
[10:00-10:15]	45	47 MPH	76 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[10:15-10:30]	50	48 MPH	78 F	---
[10:30-10:45]	52	44 MPH	82 F	---
[10:45-11:00]	64	47 MPH	83 F	---
[11:00-11:15]	48	47 MPH	85 F	---
[11:15-11:30]	60	47 MPH	89 F	---
[11:30-11:45]	52	45 MPH	91 F	---
[11:45-12:00]	64	45 MPH	93 F	---
[12:00-12:15]	65	44 MPH	97 F	---
[12:15-12:30]	69	45 MPH	97 F	---
[12:30-12:45]	76	46 MPH	97 F	---
[12:45-13:00]	65	45 MPH	99 F	---
[13:00-13:15]	62	45 MPH	101 F	---
[13:15-13:30]	54	47 MPH	97 F	---
[13:30-13:45]	69	46 MPH	97 F	---
[13:45-14:00]	82	44 MPH	97 F	---
[14:00-14:15]	72	46 MPH	101 F	---
[14:15-14:30]	70	45 MPH	101 F	---
[14:30-14:45]	64	46 MPH	101 F	---
[14:45-15:00]	78	44 MPH	99 F	---
[15:00-15:15]	72	46 MPH	97 F	---
[15:15-15:30]	75	46 MPH	93 F	---
[15:30-15:45]	68	45 MPH	93 F	---
[15:45-16:00]	76	46 MPH	95 F	---
[16:00-16:15]	74	46 MPH	95 F	---
[16:15-16:30]	70	46 MPH	97 F	---
[16:30-16:45]	83	45 MPH	95 F	---
[16:45-17:00]	108	45 MPH	93 F	---
[17:00-17:15]	84	44 MPH	91 F	---
[17:15-17:30]	75	47 MPH	87 F	---
[17:30-17:45]	92	44 MPH	85 F	---
[17:45-18:00]	90	45 MPH	83 F	---
[18:00-18:15]	79	46 MPH	83 F	---
[18:15-18:30]	59	45 MPH	82 F	---
[18:30-18:45]	51	45 MPH	82 F	---
[18:45-19:00]	59	45 MPH	80 F	---
[19:00-19:15]	48	45 MPH	80 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin	Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[19:15-19:30]	77	45 MPH	78 F	---
[19:30-19:45]	42	44 MPH	78 F	---
[19:45-20:00]	52	44 MPH	78 F	---
[20:00-20:15]	55	43 MPH	76 F	---
[20:15-20:30]	44	42 MPH	76 F	---
[20:30-20:45]	27	46 MPH	76 F	---
[20:45-21:00]	25	44 MPH	76 F	---
[21:00-21:15]	23	45 MPH	76 F	---
[21:15-21:30]	21	44 MPH	76 F	---
[21:30-21:45]	18	43 MPH	76 F	---
[21:45-22:00]	16	43 MPH	76 F	---
[22:00-22:15]	5	42 MPH	76 F	---
[22:15-22:30]	9	43 MPH	76 F	---
[22:30-22:45]	11	48 MPH	74 F	---
[22:45-23:00]	7	44 MPH	74 F	---
[23:00-23:15]	4	42 MPH	74 F	---
[23:15-23:30]	5	47 MPH	74 F	---
[23:30-23:45]	6	41 MPH	74 F	---
[23:45-00:00]	3	44 MPH	74 F	---
Sun,09-18-11	3435	45 MPH	75 F	
Mon,09-19-11				
[00:00-00:15]	3	39 MPH	74 F	---
[00:15-00:30]	2	50 MPH	72 F	---
[00:30-00:45]	4	42 MPH	72 F	---
[00:45-01:00]	1	58 MPH	72 F	---
[01:00-01:15]	2	50 MPH	72 F	---
[01:15-01:30]	0	0 MPH	72 F	---
[01:30-01:45]	0	0 MPH	72 F	---
[01:45-02:00]	1	48 MPH	70 F	---
[02:00-02:15]	0	0 MPH	70 F	---
[02:15-02:30]	0	0 MPH	70 F	---
[02:30-02:45]	0	0 MPH	70 F	---
[02:45-03:00]	0	0 MPH	70 F	---
[03:00-03:15]	1	42 MPH	70 F	---
[03:15-03:30]	2	43 MPH	70 F	---
[03:30-03:45]	0	0 MPH	70 F	---

Date/Time/Volume/Average Speed/Temperature Report

Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry
<div style="display: flex; justify-content: space-between; font-size: small;"> <div> HI-Star ID: 7060 Street: Cosgray Rd - S of Hoffman Farm State: OH City: Hilliard County: Franklin </div> <div> Begin: 09-15-11 12:00 PM Lane: SB Oper: MEW Posted: 35 AADT Factor: 1 </div> <div> End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 15661 AADT Count: 3,915 </div> </div>				
Mon,09-19-11				
[03:45-04:00]	0	0 MPH	70 F	---
[04:00-04:15]	0	0 MPH	68 F	---
[04:15-04:30]	4	48 MPH	68 F	---
[04:30-04:45]	2	47 MPH	68 F	---
[04:45-05:00]	3	43 MPH	68 F	---
[05:00-05:15]	1	42 MPH	68 F	---
[05:15-05:30]	8	44 MPH	68 F	---
[05:30-05:45]	10	45 MPH	68 F	---
[05:45-06:00]	8	42 MPH	66 F	---
[06:00-06:15]	18	41 MPH	66 F	---
[06:15-06:30]	21	44 MPH	66 F	---
[06:30-06:45]	30	42 MPH	66 F	---
[06:45-07:00]	45	44 MPH	66 F	---
[07:00-07:15]	53	43 MPH	66 F	---
[07:15-07:30]	57	44 MPH	66 F	---
[07:30-07:45]	59	44 MPH	66 F	---
[07:45-08:00]	66	44 MPH	66 F	---
[08:00-08:15]	47	44 MPH	66 F	---
[08:15-08:30]	53	44 MPH	66 F	---
[08:30-08:45]	60	43 MPH	68 F	---
[08:45-09:00]	43	42 MPH	66 F	---
[09:00-09:15]	39	44 MPH	68 F	---
[09:15-09:30]	41	45 MPH	68 F	---
[09:30-09:45]	38	47 MPH	68 F	---
[09:45-10:00]	30	46 MPH	68 F	---
[10:00-10:15]	20	45 MPH	68 F	---
[10:15-10:30]	36	44 MPH	68 F	---
[10:30-10:45]	27	44 MPH	70 F	---
[10:45-11:00]	27	46 MPH	70 F	---
[11:00-11:15]	32	45 MPH	68 F	---
[11:15-11:30]	43	42 MPH	68 F	---
[11:30-11:45]	26	45 MPH	68 F	---
[11:45-12:00]	32	44 MPH	68 F	---
Mon,09-19-11	995	44 MPH	69 F	

**Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Brown Township
Street: Hayden Run - W of Heritage Trail**

A study of vehicle traffic was conducted with HI-STAR unit number 0004. The study was done in the EB lane at Hayden Run - W of Heritage Trail in Brown Township, OH in Franklin county. The study began on 09-15-11 at 12:00 PM and concluded on 09-19-11 at 12:00 PM, lasting a total of 96.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 3780 vehicles passed through the location with a peak volume of 52 on 09-19-11 at [07:30-07:45] and a minimum volume of 0 on 09-15-11 at [22:45-23:00]. The AADT count for this study was 945.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 55 - 60 MPH range or lower. The average speed for all classified vehicles was 57 MPH with 38.51% vehicles exceeding the posted speed of 55 MPH. The HI-STAR found 38.51 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 55MPH and the 85th percentile was 67.08 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to	to											
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
0	0	0	15	24	42	86	161	374	600	965	687	431	155	147				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 2018 which represents 55 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 1296 which represents 35 percent of the total classified vehicles. The number of Trucks and Busses in the study was 325 which represents 9 percent of the total classified vehicles. The number of Tractor Trailors in the study was 48 which represents 1 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
2018	1296	325	48	0														

CHART 2

HEADWAY

During the peak traffic period, on 09-19-11 at [07:30-07:45] the average headway between vehicles was 16.981 seconds. During the slowest traffic period, on 09-15-11 at [22:45-23:00] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 50.00 and 107.00 degrees F.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0004 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin		Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1		End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945	
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry	

Thu, 09-15-11					
[12:00-12:15]	11	56 MPH	80 F		---
[12:15-12:30]	10	59 MPH	82 F		---
[12:30-12:45]	7	52 MPH	82 F		---
[12:45-13:00]	12	56 MPH	83 F		---
[13:00-13:15]	6	49 MPH	85 F		---
[13:15-13:30]	11	58 MPH	85 F		---
[13:30-13:45]	11	54 MPH	85 F		---
[13:45-14:00]	7	58 MPH	87 F		---
[14:00-14:15]	12	57 MPH	89 F		---
[14:15-14:30]	14	61 MPH	89 F		---
[14:30-14:45]	13	61 MPH	91 F		---
[14:45-15:00]	12	59 MPH	91 F		---
[15:00-15:15]	19	55 MPH	91 F		---
[15:15-15:30]	10	59 MPH	91 F		---
[15:30-15:45]	15	59 MPH	91 F		---
[15:45-16:00]	16	52 MPH	91 F		---
[16:00-16:15]	14	56 MPH	91 F		---
[16:15-16:30]	16	60 MPH	89 F		---
[16:30-16:45]	15	56 MPH	87 F		---
[16:45-17:00]	15	58 MPH	87 F		---
[17:00-17:15]	19	54 MPH	85 F		---
[17:15-17:30]	25	60 MPH	83 F		---
[17:30-17:45]	22	57 MPH	82 F		---
[17:45-18:00]	31	56 MPH	82 F		---
[18:00-18:15]	17	55 MPH	78 F		---
[18:15-18:30]	17	59 MPH	76 F		---
[18:30-18:45]	14	54 MPH	74 F		---
[18:45-19:00]	17	57 MPH	72 F		---
[19:00-19:15]	10	58 MPH	70 F		---
[19:15-19:30]	16	55 MPH	68 F		---
[19:30-19:45]	12	55 MPH	66 F		---
[19:45-20:00]	11	58 MPH	64 F		---
[20:00-20:15]	15	53 MPH	62 F		---
[20:15-20:30]	20	57 MPH	62 F		---
[20:30-20:45]	9	54 MPH	60 F		---
[20:45-21:00]	7	59 MPH	60 F		---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0004 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[21:00-21:15]	3	46 MPH	58 F	---
[21:15-21:30]	6	47 MPH	58 F	---
[21:30-21:45]	5	58 MPH	56 F	---
[21:45-22:00]	4	61 MPH	56 F	---
[22:00-22:15]	6	67 MPH	56 F	---
[22:15-22:30]	3	51 MPH	56 F	---
[22:30-22:45]	3	54 MPH	54 F	---
[22:45-23:00]	0	0 MPH	54 F	---
[23:00-23:15]	1	0 MPH	54 F	---
[23:15-23:30]	4	57 MPH	52 F	---
[23:30-23:45]	1	62 MPH	52 F	---
[23:45-00:00]	2	69 MPH	52 F	---
Thu,09-15-11	546	57 MPH	74 F	
Fri,09-16-11				
[00:00-00:15]	0	0 MPH	52 F	---
[00:15-00:30]	1	48 MPH	52 F	---
[00:30-00:45]	0	0 MPH	52 F	---
[00:45-01:00]	0	0 MPH	52 F	---
[01:00-01:15]	1	52 MPH	52 F	---
[01:15-01:30]	0	0 MPH	52 F	---
[01:30-01:45]	1	72 MPH	52 F	---
[01:45-02:00]	0	0 MPH	52 F	---
[02:00-02:15]	0	0 MPH	52 F	---
[02:15-02:30]	0	0 MPH	52 F	---
[02:30-02:45]	0	0 MPH	50 F	---
[02:45-03:00]	0	0 MPH	50 F	---
[03:00-03:15]	0	0 MPH	50 F	---
[03:15-03:30]	0	0 MPH	50 F	---
[03:30-03:45]	0	0 MPH	50 F	---
[03:45-04:00]	1	52 MPH	50 F	---
[04:00-04:15]	0	0 MPH	50 F	---
[04:15-04:30]	2	58 MPH	50 F	---
[04:30-04:45]	3	68 MPH	50 F	---
[04:45-05:00]	2	55 MPH	50 F	---
[05:00-05:15]	3	58 MPH	50 F	---
[05:15-05:30]	1	68 MPH	50 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0004 Street:Hayden Run - W of Heritage Trai State:OH City:Brown Township County:Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[05:30-05:45]	4	62 MPH	50 F	---
[05:45-06:00]	6	59 MPH	50 F	---
[06:00-06:15]	6	54 MPH	50 F	---
[06:15-06:30]	10	60 MPH	50 F	---
[06:30-06:45]	17	57 MPH	52 F	---
[06:45-07:00]	32	59 MPH	50 F	---
[07:00-07:15]	40	57 MPH	50 F	---
[07:15-07:30]	41	63 MPH	50 F	---
[07:30-07:45]	39	57 MPH	50 F	---
[07:45-08:00]	48	59 MPH	52 F	---
[08:00-08:15]	39	57 MPH	52 F	---
[08:15-08:30]	35	58 MPH	52 F	---
[08:30-08:45]	26	60 MPH	54 F	---
[08:45-09:00]	31	59 MPH	54 F	---
[09:00-09:15]	15	59 MPH	56 F	---
[09:15-09:30]	16	60 MPH	58 F	---
[09:30-09:45]	19	58 MPH	60 F	---
[09:45-10:00]	9	53 MPH	64 F	---
[10:00-10:15]	11	50 MPH	70 F	---
[10:15-10:30]	16	54 MPH	70 F	---
[10:30-10:45]	18	54 MPH	70 F	---
[10:45-11:00]	13	59 MPH	70 F	---
[11:00-11:15]	12	49 MPH	70 F	---
[11:15-11:30]	15	58 MPH	70 F	---
[11:30-11:45]	12	55 MPH	70 F	---
[11:45-12:00]	13	55 MPH	72 F	---
[12:00-12:15]	7	52 MPH	72 F	---
[12:15-12:30]	14	51 MPH	76 F	---
[12:30-12:45]	11	55 MPH	76 F	---
[12:45-13:00]	14	58 MPH	80 F	---
[13:00-13:15]	13	58 MPH	87 F	---
[13:15-13:30]	10	61 MPH	87 F	---
[13:30-13:45]	8	58 MPH	87 F	---
[13:45-14:00]	13	56 MPH	89 F	---
[14:00-14:15]	20	52 MPH	93 F	---
[14:15-14:30]	14	55 MPH	97 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0004 Street: Hayden Run - W of Heritage Trai State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[14:30-14:45]	10	60 MPH	97 F	---
[14:45-15:00]	10	57 MPH	93 F	---
[15:00-15:15]	20	57 MPH	93 F	---
[15:15-15:30]	20	58 MPH	95 F	---
[15:30-15:45]	23	56 MPH	93 F	---
[15:45-16:00]	15	59 MPH	91 F	---
[16:00-16:15]	21	57 MPH	89 F	---
[16:15-16:30]	25	58 MPH	85 F	---
[16:30-16:45]	19	61 MPH	83 F	---
[16:45-17:00]	24	57 MPH	82 F	---
[17:00-17:15]	14	56 MPH	82 F	---
[17:15-17:30]	33	55 MPH	80 F	---
[17:30-17:45]	17	61 MPH	78 F	---
[17:45-18:00]	25	59 MPH	76 F	---
[18:00-18:15]	18	61 MPH	76 F	---
[18:15-18:30]	17	61 MPH	76 F	---
[18:30-18:45]	16	59 MPH	74 F	---
[18:45-19:00]	14	59 MPH	72 F	---
[19:00-19:15]	11	54 MPH	70 F	---
[19:15-19:30]	10	56 MPH	70 F	---
[19:30-19:45]	15	60 MPH	68 F	---
[19:45-20:00]	12	58 MPH	68 F	---
[20:00-20:15]	3	53 MPH	66 F	---
[20:15-20:30]	3	54 MPH	66 F	---
[20:30-20:45]	7	45 MPH	66 F	---
[20:45-21:00]	1	52 MPH	64 F	---
[21:00-21:15]	4	54 MPH	64 F	---
[21:15-21:30]	5	65 MPH	64 F	---
[21:30-21:45]	2	60 MPH	62 F	---
[21:45-22:00]	4	50 MPH	62 F	---
[22:00-22:15]	3	51 MPH	62 F	---
[22:15-22:30]	7	55 MPH	62 F	---
[22:30-22:45]	7	59 MPH	62 F	---
[22:45-23:00]	4	59 MPH	62 F	---
[23:00-23:15]	3	63 MPH	60 F	---
[23:15-23:30]	1	48 MPH	60 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0004 Street:Hayden Run - W of Heritage Trai State:OH City:Brown Township County:Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[23:30-23:45]	4	60 MPH	60 F	---
[23:45-00:00]	1	58 MPH	60 F	---
Fri,09-16-11	1130	57 MPH	65 F	
Sat,09-17-11				
[00:00-00:15]	4	46 MPH	60 F	---
[00:15-00:30]	2	50 MPH	60 F	---
[00:30-00:45]	0	0 MPH	60 F	---
[00:45-01:00]	1	68 MPH	60 F	---
[01:00-01:15]	1	48 MPH	60 F	---
[01:15-01:30]	1	58 MPH	60 F	---
[01:30-01:45]	0	0 MPH	58 F	---
[01:45-02:00]	1	68 MPH	58 F	---
[02:00-02:15]	0	0 MPH	58 F	---
[02:15-02:30]	2	43 MPH	58 F	---
[02:30-02:45]	0	0 MPH	58 F	---
[02:45-03:00]	0	0 MPH	58 F	---
[03:00-03:15]	1	0 MPH	58 F	---
[03:15-03:30]	1	42 MPH	58 F	---
[03:30-03:45]	0	0 MPH	58 F	---
[03:45-04:00]	0	0 MPH	58 F	---
[04:00-04:15]	0	0 MPH	58 F	---
[04:15-04:30]	0	0 MPH	58 F	---
[04:30-04:45]	2	68 MPH	58 F	---
[04:45-05:00]	1	72 MPH	58 F	---
[05:00-05:15]	1	0 MPH	58 F	---
[05:15-05:30]	0	0 MPH	56 F	---
[05:30-05:45]	0	0 MPH	56 F	---
[05:45-06:00]	3	55 MPH	56 F	---
[06:00-06:15]	5	64 MPH	54 F	---
[06:15-06:30]	5	58 MPH	54 F	---
[06:30-06:45]	7	60 MPH	54 F	---
[06:45-07:00]	4	61 MPH	54 F	---
[07:00-07:15]	5	64 MPH	54 F	---
[07:15-07:30]	10	55 MPH	56 F	---
[07:30-07:45]	14	55 MPH	56 F	---
[07:45-08:00]	15	64 MPH	56 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0004 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat,09-17-11

[08:00-08:15]	12	55 MPH	56 F	---
[08:15-08:30]	12	59 MPH	58 F	---
[08:30-08:45]	12	57 MPH	58 F	---
[08:45-09:00]	9	59 MPH	60 F	---
[09:00-09:15]	17	55 MPH	62 F	---
[09:15-09:30]	14	58 MPH	64 F	---
[09:30-09:45]	13	49 MPH	66 F	---
[09:45-10:00]	18	56 MPH	70 F	---
[10:00-10:15]	15	51 MPH	74 F	---
[10:15-10:30]	16	53 MPH	76 F	---
[10:30-10:45]	18	57 MPH	78 F	---
[10:45-11:00]	22	60 MPH	82 F	---
[11:00-11:15]	13	59 MPH	85 F	---
[11:15-11:30]	13	58 MPH	87 F	---
[11:30-11:45]	18	58 MPH	91 F	---
[11:45-12:00]	22	56 MPH	93 F	---
[12:00-12:15]	20	60 MPH	93 F	---
[12:15-12:30]	21	54 MPH	97 F	---
[12:30-12:45]	14	55 MPH	97 F	---
[12:45-13:00]	18	61 MPH	97 F	---
[13:00-13:15]	19	62 MPH	97 F	---
[13:15-13:30]	17	52 MPH	101 F	---
[13:30-13:45]	22	59 MPH	101 F	---
[13:45-14:00]	14	58 MPH	97 F	---
[14:00-14:15]	16	57 MPH	91 F	---
[14:15-14:30]	14	54 MPH	95 F	---
[14:30-14:45]	13	55 MPH	101 F	---
[14:45-15:00]	18	59 MPH	97 F	---
[15:00-15:15]	12	55 MPH	103 F	---
[15:15-15:30]	16	57 MPH	107 F	---
[15:30-15:45]	11	61 MPH	105 F	---
[15:45-16:00]	14	56 MPH	103 F	---
[16:00-16:15]	10	55 MPH	103 F	---
[16:15-16:30]	21	54 MPH	103 F	---
[16:30-16:45]	9	62 MPH	97 F	---
[16:45-17:00]	11	57 MPH	95 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0004 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat,09-17-11

[17:00-17:15]	16	59 MPH	91 F	---
[17:15-17:30]	17	60 MPH	89 F	---
[17:30-17:45]	17	57 MPH	87 F	---
[17:45-18:00]	14	57 MPH	85 F	---
[18:00-18:15]	17	55 MPH	83 F	---
[18:15-18:30]	10	60 MPH	82 F	---
[18:30-18:45]	12	61 MPH	80 F	---
[18:45-19:00]	6	62 MPH	78 F	---
[19:00-19:15]	10	58 MPH	78 F	---
[19:15-19:30]	7	60 MPH	76 F	---
[19:30-19:45]	8	57 MPH	76 F	---
[19:45-20:00]	3	55 MPH	76 F	---
[20:00-20:15]	8	56 MPH	74 F	---
[20:15-20:30]	4	56 MPH	74 F	---
[20:30-20:45]	3	54 MPH	72 F	---
[20:45-21:00]	8	51 MPH	70 F	---
[21:00-21:15]	4	54 MPH	68 F	---
[21:15-21:30]	5	53 MPH	68 F	---
[21:30-21:45]	8	53 MPH	66 F	---
[21:45-22:00]	5	60 MPH	66 F	---
[22:00-22:15]	9	56 MPH	66 F	---
[22:15-22:30]	6	57 MPH	64 F	---
[22:30-22:45]	10	56 MPH	64 F	---
[22:45-23:00]	4	57 MPH	64 F	---
[23:00-23:15]	5	48 MPH	62 F	---
[23:15-23:30]	5	57 MPH	62 F	---
[23:30-23:45]	4	56 MPH	62 F	---
[23:45-00:00]	2	50 MPH	60 F	---

Sat,09-17-11

867

56 MPH

73 F

Sun,09-18-11

[00:00-00:15]	0	0 MPH	60 F	---
[00:15-00:30]	4	45 MPH	60 F	---
[00:30-00:45]	1	62 MPH	60 F	---
[00:45-01:00]	0	0 MPH	60 F	---
[01:00-01:15]	0	0 MPH	58 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0004 Street:Hayden Run - W of Heritage Trai State:OH City:Brown Township County:Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[01:15-01:30]	0	0 MPH	58 F	---
[01:30-01:45]	0	0 MPH	58 F	---
[01:45-02:00]	1	0 MPH	58 F	---
[02:00-02:15]	0	0 MPH	58 F	---
[02:15-02:30]	0	0 MPH	56 F	---
[02:30-02:45]	1	75 MPH	56 F	---
[02:45-03:00]	0	0 MPH	56 F	---
[03:00-03:15]	1	62 MPH	56 F	---
[03:15-03:30]	1	52 MPH	56 F	---
[03:30-03:45]	0	0 MPH	56 F	---
[03:45-04:00]	0	0 MPH	56 F	---
[04:00-04:15]	0	0 MPH	56 F	---
[04:15-04:30]	0	0 MPH	54 F	---
[04:30-04:45]	1	68 MPH	54 F	---
[04:45-05:00]	0	0 MPH	54 F	---
[05:00-05:15]	0	0 MPH	54 F	---
[05:15-05:30]	1	58 MPH	54 F	---
[05:30-05:45]	2	52 MPH	54 F	---
[05:45-06:00]	2	67 MPH	54 F	---
[06:00-06:15]	1	68 MPH	54 F	---
[06:15-06:30]	0	0 MPH	54 F	---
[06:30-06:45]	3	57 MPH	54 F	---
[06:45-07:00]	3	65 MPH	52 F	---
[07:00-07:15]	4	53 MPH	52 F	---
[07:15-07:30]	6	64 MPH	52 F	---
[07:30-07:45]	3	72 MPH	54 F	---
[07:45-08:00]	9	59 MPH	54 F	---
[08:00-08:15]	4	51 MPH	56 F	---
[08:15-08:30]	10	59 MPH	58 F	---
[08:30-08:45]	9	59 MPH	60 F	---
[08:45-09:00]	12	62 MPH	64 F	---
[09:00-09:15]	13	59 MPH	66 F	---
[09:15-09:30]	9	56 MPH	70 F	---
[09:30-09:45]	13	61 MPH	72 F	---
[09:45-10:00]	6	63 MPH	74 F	---
[10:00-10:15]	16	59 MPH	76 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0004 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun, 09-18-11				
[10:15-10:30]	11	55 MPH	78 F	---
[10:30-10:45]	13	62 MPH	82 F	---
[10:45-11:00]	13	57 MPH	85 F	---
[11:00-11:15]	12	58 MPH	87 F	---
[11:15-11:30]	11	58 MPH	91 F	---
[11:30-11:45]	11	56 MPH	93 F	---
[11:45-12:00]	16	55 MPH	95 F	---
[12:00-12:15]	12	58 MPH	97 F	---
[12:15-12:30]	8	61 MPH	97 F	---
[12:30-12:45]	21	60 MPH	99 F	---
[12:45-13:00]	16	59 MPH	101 F	---
[13:00-13:15]	17	57 MPH	99 F	---
[13:15-13:30]	16	55 MPH	97 F	---
[13:30-13:45]	20	55 MPH	97 F	---
[13:45-14:00]	13	55 MPH	103 F	---
[14:00-14:15]	12	54 MPH	105 F	---
[14:15-14:30]	10	61 MPH	107 F	---
[14:30-14:45]	18	57 MPH	103 F	---
[14:45-15:00]	8	54 MPH	101 F	---
[15:00-15:15]	8	56 MPH	97 F	---
[15:15-15:30]	18	60 MPH	95 F	---
[15:30-15:45]	17	60 MPH	93 F	---
[15:45-16:00]	14	52 MPH	95 F	---
[16:00-16:15]	14	54 MPH	97 F	---
[16:15-16:30]	11	57 MPH	99 F	---
[16:30-16:45]	16	58 MPH	95 F	---
[16:45-17:00]	14	56 MPH	97 F	---
[17:00-17:15]	9	60 MPH	91 F	---
[17:15-17:30]	13	55 MPH	89 F	---
[17:30-17:45]	13	56 MPH	85 F	---
[17:45-18:00]	17	56 MPH	83 F	---
[18:00-18:15]	11	60 MPH	82 F	---
[18:15-18:30]	16	55 MPH	80 F	---
[18:30-18:45]	18	56 MPH	80 F	---
[18:45-19:00]	9	56 MPH	78 F	---
[19:00-19:15]	16	57 MPH	76 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0004 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[19:15-19:30]	3	48 MPH	76 F	---
[19:30-19:45]	12	59 MPH	76 F	---
[19:45-20:00]	11	52 MPH	76 F	---
[20:00-20:15]	10	61 MPH	76 F	---
[20:15-20:30]	2	53 MPH	76 F	---
[20:30-20:45]	8	54 MPH	76 F	---
[20:45-21:00]	3	59 MPH	74 F	---
[21:00-21:15]	3	51 MPH	74 F	---
[21:15-21:30]	4	55 MPH	74 F	---
[21:30-21:45]	1	62 MPH	74 F	---
[21:45-22:00]	3	56 MPH	74 F	---
[22:00-22:15]	3	54 MPH	72 F	---
[22:15-22:30]	3	57 MPH	72 F	---
[22:30-22:45]	1	48 MPH	72 F	---
[22:45-23:00]	5	52 MPH	72 F	---
[23:00-23:15]	2	40 MPH	72 F	---
[23:15-23:30]	3	57 MPH	72 F	---
[23:30-23:45]	2	50 MPH	70 F	---
[23:45-00:00]	0	0 MPH	70 F	---
Sun,09-18-11	707	56 MPH	74 F	
Mon,09-19-11				
[00:00-00:15]	1	58 MPH	70 F	---
[00:15-00:30]	0	0 MPH	70 F	---
[00:30-00:45]	0	0 MPH	70 F	---
[00:45-01:00]	0	0 MPH	70 F	---
[01:00-01:15]	0	0 MPH	70 F	---
[01:15-01:30]	0	0 MPH	70 F	---
[01:30-01:45]	0	0 MPH	68 F	---
[01:45-02:00]	0	0 MPH	68 F	---
[02:00-02:15]	0	0 MPH	68 F	---
[02:15-02:30]	0	0 MPH	68 F	---
[02:30-02:45]	0	0 MPH	68 F	---
[02:45-03:00]	0	0 MPH	68 F	---
[03:00-03:15]	0	0 MPH	68 F	---
[03:15-03:30]	0	0 MPH	68 F	---
[03:30-03:45]	2	50 MPH	66 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0004 Street:Hayden Run - W of Heritage Trai State:OH City:Brown Township County:Franklin	Begin: 09-15-11 12:00 PM Lane: EB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 3780 AADT Count: 945		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Mon,09-19-11				
[03:45-04:00]	0	0 MPH	66 F	---
[04:00-04:15]	0	0 MPH	66 F	---
[04:15-04:30]	1	48 MPH	66 F	---
[04:30-04:45]	2	65 MPH	66 F	---
[04:45-05:00]	1	75 MPH	66 F	---
[05:00-05:15]	4	62 MPH	66 F	---
[05:15-05:30]	2	63 MPH	66 F	---
[05:30-05:45]	2	58 MPH	66 F	---
[05:45-06:00]	3	59 MPH	64 F	---
[06:00-06:15]	9	62 MPH	64 F	---
[06:15-06:30]	16	59 MPH	64 F	---
[06:30-06:45]	19	59 MPH	64 F	---
[06:45-07:00]	23	56 MPH	64 F	---
[07:00-07:15]	41	57 MPH	64 F	---
[07:15-07:30]	41	60 MPH	64 F	---
[07:30-07:45]	52	60 MPH	64 F	---
[07:45-08:00]	46	61 MPH	64 F	---
[08:00-08:15]	46	59 MPH	64 F	---
[08:15-08:30]	34	58 MPH	64 F	---
[08:30-08:45]	20	60 MPH	66 F	---
[08:45-09:00]	26	59 MPH	64 F	---
[09:00-09:15]	17	59 MPH	66 F	---
[09:15-09:30]	16	59 MPH	68 F	---
[09:30-09:45]	10	58 MPH	66 F	---
[09:45-10:00]	13	57 MPH	66 F	---
[10:00-10:15]	8	55 MPH	66 F	---
[10:15-10:30]	8	58 MPH	66 F	---
[10:30-10:45]	9	50 MPH	68 F	---
[10:45-11:00]	15	53 MPH	66 F	---
[11:00-11:15]	12	59 MPH	66 F	---
[11:15-11:30]	12	55 MPH	66 F	---
[11:30-11:45]	7	59 MPH	66 F	---
[11:45-12:00]	12	57 MPH	66 F	---
Mon,09-19-11	530	57 MPH	66 F	

**Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Brown Township
Street: Hayden Run - W of Heritage Trail**

A study of vehicle traffic was conducted with HI-STAR unit number 0000. The study was done in the WB lane at Hayden Run - W of Heritage Trail in Brown Township, OH in Franklin county. The study began on 09-15-11 at 12:00 PM and concluded on 09-19-11 at 12:00 PM, lasting a total of 96.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 4133 vehicles passed through the location with a peak volume of 63 on 09-16-11 at [17:15-17:30] and a minimum volume of 0 on 09-18-11 at [23:45-00:00]. The AADT count for this study was 1,033.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 55 - 60 MPH range or lower. The average speed for all classified vehicles was 58 MPH with 39.22% vehicles exceeding the posted speed of 55 MPH. The HI-STAR found 39.22 percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 55MPH and the 85th percentile was 64.96 MPH.

<	10	15	20	25	30	35	40	45	50	55	60	65	70	75				
to	to	to	to	to	to	to												
9	14	19	24	29	34	39	44	49	54	59	64	69	74	>				
0	0	0	0	3	23	33	99	341	754	1251	1006	458	93	59				

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles (PV). The number of Passenger Vehicles (PV) in the study was 2071 which represents 50 percent of the total classified vehicles. The number of Single Unit Trucks (SU) Small Trucks in the study was 1647 which represents 40 percent of the total classified vehicles. The number of Trucks and Busses in the study was 340 which represents 8 percent of the total classified vehicles. The number of Tractor Trailors in the study was 62 which represents 2 percent of the total classified vehicles.

<	19	24	36	80														
to	to	to	to	to														
18	23	35	79	>														
2071	1647	340	61	1														

CHART 2

HEADWAY

During the peak traffic period, on 09-16-11 at [17:15-17:30] the average headway between vehicles was 14.063 seconds. During the slowest traffic period, on 09-18-11 at [23:45-00:00] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 50.00 and 103.00 degrees F.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0000 Street:Hayden Run - W of Heritage Trai State:OH City:Brown Township County:Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[12:00-12:15]	14	58 MPH	78 F	---
[12:15-12:30]	16	57 MPH	80 F	---
[12:30-12:45]	12	62 MPH	80 F	---
[12:45-13:00]	14	53 MPH	82 F	---
[13:00-13:15]	11	58 MPH	83 F	---
[13:15-13:30]	12	58 MPH	83 F	---
[13:30-13:45]	9	57 MPH	85 F	---
[13:45-14:00]	14	58 MPH	85 F	---
[14:00-14:15]	12	64 MPH	87 F	---
[14:15-14:30]	14	59 MPH	87 F	---
[14:30-14:45]	13	58 MPH	89 F	---
[14:45-15:00]	29	58 MPH	89 F	---
[15:00-15:15]	14	60 MPH	89 F	---
[15:15-15:30]	16	58 MPH	89 F	---
[15:30-15:45]	20	57 MPH	89 F	---
[15:45-16:00]	29	59 MPH	89 F	---
[16:00-16:15]	37	59 MPH	89 F	---
[16:15-16:30]	25	63 MPH	87 F	---
[16:30-16:45]	41	58 MPH	87 F	---
[16:45-17:00]	56	59 MPH	85 F	---
[17:00-17:15]	35	59 MPH	83 F	---
[17:15-17:30]	60	62 MPH	83 F	---
[17:30-17:45]	41	62 MPH	82 F	---
[17:45-18:00]	34	58 MPH	80 F	---
[18:00-18:15]	35	61 MPH	78 F	---
[18:15-18:30]	31	59 MPH	76 F	---
[18:30-18:45]	22	59 MPH	76 F	---
[18:45-19:00]	21	61 MPH	72 F	---
[19:00-19:15]	36	61 MPH	70 F	---
[19:15-19:30]	20	57 MPH	68 F	---
[19:30-19:45]	19	57 MPH	66 F	---
[19:45-20:00]	12	59 MPH	64 F	---
[20:00-20:15]	23	58 MPH	62 F	---
[20:15-20:30]	21	57 MPH	62 F	---
[20:30-20:45]	13	57 MPH	60 F	---
[20:45-21:00]	7	58 MPH	60 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0000 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Thu,09-15-11				
[21:00-21:15]	18	58 MPH	58 F	---
[21:15-21:30]	8	59 MPH	58 F	---
[21:30-21:45]	7	60 MPH	58 F	---
[21:45-22:00]	7	55 MPH	56 F	---
[22:00-22:15]	10	59 MPH	56 F	---
[22:15-22:30]	10	59 MPH	56 F	---
[22:30-22:45]	6	61 MPH	56 F	---
[22:45-23:00]	6	59 MPH	54 F	---
[23:00-23:15]	3	59 MPH	54 F	---
[23:15-23:30]	4	62 MPH	54 F	---
[23:30-23:45]	3	65 MPH	54 F	---
[23:45-00:00]	1	62 MPH	52 F	---
Thu,09-15-11	921	59 MPH	73 F	
Fri,09-16-11				
[00:00-00:15]	0	0 MPH	52 F	---
[00:15-00:30]	3	59 MPH	52 F	---
[00:30-00:45]	0	0 MPH	52 F	---
[00:45-01:00]	1	75 MPH	52 F	---
[01:00-01:15]	1	62 MPH	52 F	---
[01:15-01:30]	0	0 MPH	52 F	---
[01:30-01:45]	0	0 MPH	52 F	---
[01:45-02:00]	2	63 MPH	52 F	---
[02:00-02:15]	1	58 MPH	52 F	---
[02:15-02:30]	1	58 MPH	52 F	---
[02:30-02:45]	1	58 MPH	52 F	---
[02:45-03:00]	0	0 MPH	50 F	---
[03:00-03:15]	0	0 MPH	50 F	---
[03:15-03:30]	0	0 MPH	50 F	---
[03:30-03:45]	0	0 MPH	50 F	---
[03:45-04:00]	0	0 MPH	50 F	---
[04:00-04:15]	0	0 MPH	50 F	---
[04:15-04:30]	1	48 MPH	50 F	---
[04:30-04:45]	0	0 MPH	50 F	---
[04:45-05:00]	1	32 MPH	50 F	---
[05:00-05:15]	1	52 MPH	50 F	---
[05:15-05:30]	1	68 MPH	50 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0000 Street:Hayden Run - W of Heritage Trai State:OH City:Brown Township County:Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[05:30-05:45]	5	65 MPH	52 F	---
[05:45-06:00]	4	55 MPH	52 F	---
[06:00-06:15]	0	0 MPH	52 F	---
[06:15-06:30]	5	57 MPH	52 F	---
[06:30-06:45]	5	56 MPH	52 F	---
[06:45-07:00]	7	64 MPH	52 F	---
[07:00-07:15]	13	56 MPH	52 F	---
[07:15-07:30]	10	62 MPH	52 F	---
[07:30-07:45]	16	59 MPH	52 F	---
[07:45-08:00]	19	59 MPH	52 F	---
[08:00-08:15]	12	58 MPH	52 F	---
[08:15-08:30]	13	56 MPH	52 F	---
[08:30-08:45]	13	55 MPH	54 F	---
[08:45-09:00]	9	44 MPH	56 F	---
[09:00-09:15]	13	61 MPH	56 F	---
[09:15-09:30]	14	59 MPH	58 F	---
[09:30-09:45]	6	52 MPH	60 F	---
[09:45-10:00]	8	53 MPH	62 F	---
[10:00-10:15]	9	60 MPH	68 F	---
[10:15-10:30]	7	51 MPH	70 F	---
[10:30-10:45]	12	52 MPH	70 F	---
[10:45-11:00]	9	56 MPH	70 F	---
[11:00-11:15]	4	51 MPH	70 F	---
[11:15-11:30]	7	55 MPH	70 F	---
[11:30-11:45]	16	55 MPH	70 F	---
[11:45-12:00]	14	56 MPH	72 F	---
[12:00-12:15]	10	58 MPH	72 F	---
[12:15-12:30]	15	55 MPH	74 F	---
[12:30-12:45]	12	55 MPH	76 F	---
[12:45-13:00]	17	53 MPH	78 F	---
[13:00-13:15]	10	58 MPH	85 F	---
[13:15-13:30]	16	56 MPH	85 F	---
[13:30-13:45]	14	62 MPH	85 F	---
[13:45-14:00]	16	58 MPH	87 F	---
[14:00-14:15]	24	59 MPH	91 F	---
[14:15-14:30]	15	59 MPH	95 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0000 Street:Hayden Run - W of Heritage Trai State:OH City:Brown Township County:Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033
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Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry
Fri,09-16-11				
[14:30-14:45]	20	59 MPH	95 F	---
[14:45-15:00]	21	59 MPH	91 F	---
[15:00-15:15]	23	58 MPH	91 F	---
[15:15-15:30]	23	58 MPH	93 F	---
[15:30-15:45]	24	58 MPH	93 F	---
[15:45-16:00]	27	58 MPH	89 F	---
[16:00-16:15]	57	54 MPH	87 F	---
[16:15-16:30]	45	57 MPH	85 F	---
[16:30-16:45]	54	57 MPH	82 F	---
[16:45-17:00]	35	57 MPH	82 F	---
[17:00-17:15]	50	61 MPH	82 F	---
[17:15-17:30]	63	57 MPH	80 F	---
[17:30-17:45]	58	59 MPH	78 F	---
[17:45-18:00]	30	59 MPH	76 F	---
[18:00-18:15]	25	56 MPH	76 F	---
[18:15-18:30]	20	62 MPH	76 F	---
[18:30-18:45]	29	59 MPH	74 F	---
[18:45-19:00]	20	59 MPH	74 F	---
[19:00-19:15]	20	56 MPH	72 F	---
[19:15-19:30]	14	63 MPH	70 F	---
[19:30-19:45]	19	58 MPH	70 F	---
[19:45-20:00]	20	58 MPH	68 F	---
[20:00-20:15]	14	55 MPH	68 F	---
[20:15-20:30]	13	52 MPH	68 F	---
[20:30-20:45]	10	57 MPH	66 F	---
[20:45-21:00]	13	60 MPH	66 F	---
[21:00-21:15]	17	58 MPH	66 F	---
[21:15-21:30]	14	59 MPH	64 F	---
[21:30-21:45]	8	63 MPH	64 F	---
[21:45-22:00]	9	59 MPH	62 F	---
[22:00-22:15]	9	60 MPH	62 F	---
[22:15-22:30]	4	54 MPH	62 F	---
[22:30-22:45]	9	60 MPH	62 F	---
[22:45-23:00]	6	64 MPH	62 F	---
[23:00-23:15]	5	66 MPH	62 F	---
[23:15-23:30]	6	54 MPH	62 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0000 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Fri,09-16-11				
[23:30-23:45]	4	54 MPH	62 F	---
[23:45-00:00]	5	60 MPH	62 F	---
Fri,09-16-11	1256	57 MPH	65 F	
Sat,09-17-11				
[00:00-00:15]	3	61 MPH	62 F	---
[00:15-00:30]	2	57 MPH	60 F	---
[00:30-00:45]	2	63 MPH	60 F	---
[00:45-01:00]	4	55 MPH	60 F	---
[01:00-01:15]	1	52 MPH	60 F	---
[01:15-01:30]	3	57 MPH	60 F	---
[01:30-01:45]	1	58 MPH	60 F	---
[01:45-02:00]	1	52 MPH	60 F	---
[02:00-02:15]	0	0 MPH	60 F	---
[02:15-02:30]	2	47 MPH	60 F	---
[02:30-02:45]	5	57 MPH	60 F	---
[02:45-03:00]	1	68 MPH	60 F	---
[03:00-03:15]	1	48 MPH	58 F	---
[03:15-03:30]	0	0 MPH	58 F	---
[03:30-03:45]	0	0 MPH	58 F	---
[03:45-04:00]	0	0 MPH	58 F	---
[04:00-04:15]	0	0 MPH	58 F	---
[04:15-04:30]	0	0 MPH	58 F	---
[04:30-04:45]	0	0 MPH	58 F	---
[04:45-05:00]	0	0 MPH	58 F	---
[05:00-05:15]	0	0 MPH	58 F	---
[05:15-05:30]	2	58 MPH	58 F	---
[05:30-05:45]	0	0 MPH	58 F	---
[05:45-06:00]	2	63 MPH	56 F	---
[06:00-06:15]	0	0 MPH	56 F	---
[06:15-06:30]	3	49 MPH	56 F	---
[06:30-06:45]	0	0 MPH	56 F	---
[06:45-07:00]	4	54 MPH	56 F	---
[07:00-07:15]	2	63 MPH	56 F	---
[07:15-07:30]	6	58 MPH	56 F	---
[07:30-07:45]	9	55 MPH	56 F	---
[07:45-08:00]	9	58 MPH	56 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0000 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat, 09-17-11

[08:00-08:15]	7	59 MPH	56 F	---
[08:15-08:30]	9	52 MPH	58 F	---
[08:30-08:45]	7	50 MPH	58 F	---
[08:45-09:00]	9	58 MPH	60 F	---
[09:00-09:15]	7	57 MPH	62 F	---
[09:15-09:30]	11	55 MPH	64 F	---
[09:30-09:45]	12	54 MPH	66 F	---
[09:45-10:00]	14	58 MPH	68 F	---
[10:00-10:15]	11	55 MPH	72 F	---
[10:15-10:30]	18	53 MPH	76 F	---
[10:30-10:45]	20	55 MPH	76 F	---
[10:45-11:00]	15	54 MPH	80 F	---
[11:00-11:15]	16	60 MPH	83 F	---
[11:15-11:30]	15	54 MPH	85 F	---
[11:30-11:45]	14	57 MPH	89 F	---
[11:45-12:00]	16	57 MPH	91 F	---
[12:00-12:15]	19	57 MPH	91 F	---
[12:15-12:30]	23	59 MPH	93 F	---
[12:30-12:45]	15	56 MPH	93 F	---
[12:45-13:00]	15	55 MPH	93 F	---
[13:00-13:15]	21	58 MPH	97 F	---
[13:15-13:30]	18	55 MPH	97 F	---
[13:30-13:45]	16	56 MPH	97 F	---
[13:45-14:00]	16	60 MPH	95 F	---
[14:00-14:15]	25	57 MPH	89 F	---
[14:15-14:30]	16	54 MPH	93 F	---
[14:30-14:45]	20	58 MPH	97 F	---
[14:45-15:00]	19	58 MPH	97 F	---
[15:00-15:15]	15	57 MPH	99 F	---
[15:15-15:30]	16	59 MPH	103 F	---
[15:30-15:45]	15	59 MPH	103 F	---
[15:45-16:00]	15	58 MPH	101 F	---
[16:00-16:15]	25	57 MPH	101 F	---
[16:15-16:30]	14	59 MPH	101 F	---
[16:30-16:45]	16	60 MPH	97 F	---
[16:45-17:00]	20	62 MPH	95 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0000 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sat,09-17-11

[17:00-17:15]	12	57 MPH	91 F	---
[17:15-17:30]	13	59 MPH	89 F	---
[17:30-17:45]	18	60 MPH	87 F	---
[17:45-18:00]	14	59 MPH	85 F	---
[18:00-18:15]	11	59 MPH	83 F	---
[18:15-18:30]	23	60 MPH	82 F	---
[18:30-18:45]	12	58 MPH	82 F	---
[18:45-19:00]	17	58 MPH	80 F	---
[19:00-19:15]	9	58 MPH	78 F	---
[19:15-19:30]	20	59 MPH	78 F	---
[19:30-19:45]	10	56 MPH	76 F	---
[19:45-20:00]	10	62 MPH	76 F	---
[20:00-20:15]	9	56 MPH	76 F	---
[20:15-20:30]	7	57 MPH	74 F	---
[20:30-20:45]	6	60 MPH	74 F	---
[20:45-21:00]	3	59 MPH	72 F	---
[21:00-21:15]	9	55 MPH	70 F	---
[21:15-21:30]	16	57 MPH	70 F	---
[21:30-21:45]	1	62 MPH	68 F	---
[21:45-22:00]	6	53 MPH	68 F	---
[22:00-22:15]	4	67 MPH	66 F	---
[22:15-22:30]	9	58 MPH	66 F	---
[22:30-22:45]	8	57 MPH	66 F	---
[22:45-23:00]	9	57 MPH	64 F	---
[23:00-23:15]	12	58 MPH	64 F	---
[23:15-23:30]	7	60 MPH	64 F	---
[23:30-23:45]	6	57 MPH	62 F	---
[23:45-00:00]	6	53 MPH	62 F	---

Sat,09-17-11

910 57 MPH 73 F

Sun,09-18-11

[00:00-00:15]	2	57 MPH	62 F	---
[00:15-00:30]	3	56 MPH	62 F	---
[00:30-00:45]	2	63 MPH	60 F	---
[00:45-01:00]	0	0 MPH	60 F	---
[01:00-01:15]	2	58 MPH	60 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0000 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[01:15-01:30]	0	0 MPH	60 F	---
[01:30-01:45]	0	0 MPH	60 F	---
[01:45-02:00]	1	62 MPH	58 F	---
[02:00-02:15]	0	0 MPH	58 F	---
[02:15-02:30]	1	48 MPH	58 F	---
[02:30-02:45]	0	0 MPH	58 F	---
[02:45-03:00]	1	58 MPH	58 F	---
[03:00-03:15]	1	58 MPH	56 F	---
[03:15-03:30]	2	55 MPH	56 F	---
[03:30-03:45]	1	52 MPH	56 F	---
[03:45-04:00]	1	58 MPH	56 F	---
[04:00-04:15]	1	58 MPH	56 F	---
[04:15-04:30]	0	0 MPH	56 F	---
[04:30-04:45]	0	0 MPH	56 F	---
[04:45-05:00]	0	0 MPH	56 F	---
[05:00-05:15]	0	0 MPH	56 F	---
[05:15-05:30]	1	38 MPH	54 F	---
[05:30-05:45]	1	58 MPH	54 F	---
[05:45-06:00]	0	0 MPH	54 F	---
[06:00-06:15]	0	0 MPH	54 F	---
[06:15-06:30]	1	62 MPH	54 F	---
[06:30-06:45]	1	48 MPH	54 F	---
[06:45-07:00]	1	62 MPH	54 F	---
[07:00-07:15]	2	60 MPH	54 F	---
[07:15-07:30]	5	55 MPH	54 F	---
[07:30-07:45]	3	59 MPH	54 F	---
[07:45-08:00]	4	56 MPH	54 F	---
[08:00-08:15]	4	57 MPH	56 F	---
[08:15-08:30]	6	57 MPH	58 F	---
[08:30-08:45]	8	60 MPH	60 F	---
[08:45-09:00]	10	58 MPH	62 F	---
[09:00-09:15]	10	59 MPH	66 F	---
[09:15-09:30]	9	61 MPH	68 F	---
[09:30-09:45]	9	62 MPH	70 F	---
[09:45-10:00]	6	56 MPH	72 F	---
[10:00-10:15]	2	60 MPH	76 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0000 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun, 09-18-11				
[10:15-10:30]	10	60 MPH	76 F	---
[10:30-10:45]	6	56 MPH	80 F	---
[10:45-11:00]	10	59 MPH	82 F	---
[11:00-11:15]	9	55 MPH	85 F	---
[11:15-11:30]	9	55 MPH	87 F	---
[11:30-11:45]	6	56 MPH	89 F	---
[11:45-12:00]	11	60 MPH	91 F	---
[12:00-12:15]	19	60 MPH	93 F	---
[12:15-12:30]	18	61 MPH	95 F	---
[12:30-12:45]	23	58 MPH	97 F	---
[12:45-13:00]	11	59 MPH	97 F	---
[13:00-13:15]	20	60 MPH	97 F	---
[13:15-13:30]	23	59 MPH	95 F	---
[13:30-13:45]	16	61 MPH	95 F	---
[13:45-14:00]	19	57 MPH	97 F	---
[14:00-14:15]	20	54 MPH	99 F	---
[14:15-14:30]	18	57 MPH	103 F	---
[14:30-14:45]	13	59 MPH	99 F	---
[14:45-15:00]	11	59 MPH	99 F	---
[15:00-15:15]	17	59 MPH	97 F	---
[15:15-15:30]	17	60 MPH	95 F	---
[15:30-15:45]	17	59 MPH	93 F	---
[15:45-16:00]	24	57 MPH	93 F	---
[16:00-16:15]	21	61 MPH	97 F	---
[16:15-16:30]	27	57 MPH	97 F	---
[16:30-16:45]	25	56 MPH	95 F	---
[16:45-17:00]	21	63 MPH	95 F	---
[17:00-17:15]	13	57 MPH	91 F	---
[17:15-17:30]	22	59 MPH	89 F	---
[17:30-17:45]	14	58 MPH	87 F	---
[17:45-18:00]	16	60 MPH	85 F	---
[18:00-18:15]	15	57 MPH	83 F	---
[18:15-18:30]	21	57 MPH	82 F	---
[18:30-18:45]	13	57 MPH	80 F	---
[18:45-19:00]	10	57 MPH	80 F	---
[19:00-19:15]	12	56 MPH	78 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 0000 Street: Hayden Run - W of Heritage Trail State: OH City: Brown Township County: Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Sun,09-18-11				
[19:15-19:30]	11	60 MPH	78 F	---
[19:30-19:45]	12	61 MPH	76 F	---
[19:45-20:00]	10	54 MPH	76 F	---
[20:00-20:15]	10	57 MPH	76 F	---
[20:15-20:30]	3	63 MPH	76 F	---
[20:30-20:45]	8	55 MPH	76 F	---
[20:45-21:00]	6	54 MPH	76 F	---
[21:00-21:15]	10	63 MPH	76 F	---
[21:15-21:30]	11	57 MPH	76 F	---
[21:30-21:45]	4	58 MPH	74 F	---
[21:45-22:00]	6	59 MPH	74 F	---
[22:00-22:15]	7	54 MPH	74 F	---
[22:15-22:30]	3	61 MPH	74 F	---
[22:30-22:45]	3	63 MPH	74 F	---
[22:45-23:00]	1	52 MPH	74 F	---
[23:00-23:15]	1	62 MPH	72 F	---
[23:15-23:30]	2	75 MPH	72 F	---
[23:30-23:45]	3	63 MPH	72 F	---
[23:45-00:00]	0	0 MPH	72 F	---
Sun,09-18-11	789	58 MPH	74 F	
Mon,09-19-11				
[00:00-00:15]	4	68 MPH	72 F	---
[00:15-00:30]	1	68 MPH	72 F	---
[00:30-00:45]	0	0 MPH	70 F	---
[00:45-01:00]	1	62 MPH	70 F	---
[01:00-01:15]	1	58 MPH	70 F	---
[01:15-01:30]	0	0 MPH	70 F	---
[01:30-01:45]	1	58 MPH	70 F	---
[01:45-02:00]	0	0 MPH	70 F	---
[02:00-02:15]	1	68 MPH	70 F	---
[02:15-02:30]	0	0 MPH	70 F	---
[02:30-02:45]	0	0 MPH	70 F	---
[02:45-03:00]	1	62 MPH	68 F	---
[03:00-03:15]	0	0 MPH	68 F	---
[03:15-03:30]	0	0 MPH	68 F	---
[03:30-03:45]	0	0 MPH	68 F	---

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID:0000 Street:Hayden Run - W of Heritage Trai State:OH City:Brown Township County:Franklin	Begin: 09-15-11 12:00 PM Lane: WB Oper: MEW Posted: 55 AADT Factor: 1	End: 09-19-11 12:00 PM Hours: 96.00 Period: 15 Raw Count: 4133 AADT Count: 1,033		
Date And Time Range	Period Volume	Average Speed	Roadway Temperature	Roadway Surface Wet/Dry

Mon,09-19-11				
[03:45-04:00]	0	0 MPH	68 F	---
[04:00-04:15]	0	0 MPH	68 F	---
[04:15-04:30]	0	0 MPH	68 F	---
[04:30-04:45]	1	58 MPH	68 F	---
[04:45-05:00]	0	0 MPH	68 F	---
[05:00-05:15]	0	0 MPH	66 F	---
[05:15-05:30]	3	64 MPH	68 F	---
[05:30-05:45]	2	65 MPH	66 F	---
[05:45-06:00]	1	58 MPH	66 F	---
[06:00-06:15]	3	63 MPH	66 F	---
[06:15-06:30]	4	55 MPH	66 F	---
[06:30-06:45]	7	61 MPH	66 F	---
[06:45-07:00]	6	60 MPH	64 F	---
[07:00-07:15]	20	60 MPH	64 F	---
[07:15-07:30]	10	60 MPH	64 F	---
[07:30-07:45]	19	60 MPH	64 F	---
[07:45-08:00]	10	59 MPH	64 F	---
[08:00-08:15]	14	59 MPH	66 F	---
[08:15-08:30]	8	56 MPH	66 F	---
[08:30-08:45]	6	58 MPH	66 F	---
[08:45-09:00]	10	58 MPH	66 F	---
[09:00-09:15]	10	60 MPH	66 F	---
[09:15-09:30]	12	54 MPH	68 F	---
[09:30-09:45]	9	58 MPH	68 F	---
[09:45-10:00]	9	55 MPH	66 F	---
[10:00-10:15]	9	54 MPH	66 F	---
[10:15-10:30]	10	52 MPH	66 F	---
[10:30-10:45]	8	58 MPH	68 F	---
[10:45-11:00]	5	51 MPH	68 F	---
[11:00-11:15]	9	60 MPH	66 F	---
[11:15-11:30]	12	55 MPH	68 F	---
[11:30-11:45]	13	54 MPH	68 F	---
[11:45-12:00]	17	57 MPH	68 F	---
Mon,09-19-11	257	58 MPH	68 F	

Appendix B
Pedestrian/Bicycle Data Collection
on the Heritage Rail Trail

Pedestrian and Bicycle Count Methodology

Data collection on a multi-use trail is challenging to obtain because trail use is variable and unpredictable. Weather conditions impact trail use dramatically; therefore, in order to accurately obtain a good representation of the number of users on a trail, it is important to collect data over multiple days and look at weather conditions concurrently.

Because collecting bike and pedestrian data over many days and times can be very time consuming, the City of Hilliard borrowed a machine counter from the Mid-Ohio Regional Planning Commission (MORPC). The machine counter used is the Trail Master TM1550 Active Infrared Trail Monitor. The unit works by installing an infrared transmitter device across from a monitor, which receives the infrared signal. A count is registered when there is a break in the infrared beam.

There are limitations to the infrared counting devices:

1. There is no way to distinguish between different types of users (bicyclist, jogger, walker, rollerblader).
2. Side by side pedestrians or cyclists are counted as a single user because there is only a single break in the infrared beam.

Set up of the counting devices is important to achieve accurate results. The following factors were calibrated prior to final data collection:

1. The appropriate height of the counting device. Placing the device too high may result in failure to register a child or a recumbent bicycle; placing the device too low may result in double counting a user by registering each leg of a bicyclist as a separate user.
2. The appropriate sensitivity setting for the counter. A low sensitivity setting will result in missing higher speed cyclists; a high sensitivity setting may detect a random falling or flying object (i.e. a leaf or bird) and register a count.

Pedestrian and bicycle data was originally collected in September 2011. The counters were located between Cosgray Road and Leppert Road, approximately 260' northwest of the north/south trail that runs through Hoffman Farms subdivision. The counters were positioned so that the infrared beam crossed approximately 2 feet above the surface of the trail, and a sensitivity setting of P=1 was used.

Unfortunately, a side by side manual count was not conducted currently with the machine count. After collection of the data was complete and the reports were generated, staff suspected that the count data was too high and that either the height of the counters needed to be raised or the sensitivity of the devices needed to be lowered (or both).

To better evaluate the effectiveness of the counters and to ensure a more accurate count, the counters were placed at the same general location in the Spring of 2012, and several side-by-side manual counts were conducted concurrently. On Tuesday, March 13, 2012, the counters were placed approximately 3.5 feet above the surface of the path and a sensitivity setting of P=2 was used. The side-by-side comparisons showed that the counters were drastically undercounting path users; less than half of the observed path users were counted by the infrared counters. All bicyclists traveling at even a moderate, leisurely speed were missed.

On Tuesday, March 20, 2012 the sensitivity setting was changed back to P=1. The counter units were kept at a height of approximately 3.5 feet above the surface of the path. At least three independent checks of the counters showed that the devices were accurately counting most pedestrians and bicyclists. The exception to this was the limitation of the infrared counters that pedestrians or cyclists riding adjacent to one another were counted as a single user. Based on the multiple independent checks of the counters, staff determined that a factor of 1.14 should be applied to all machine counts to conservatively adjust for the missed counts resulting from pedestrians or bicyclists walking or riding adjacent to one another.

Pedestrian and bicycle count data was collected for a total of three weeks from Tuesday, March 13 – Tuesday, April 3, 2012. In March 2012, central Ohio experienced unseasonably warm weather with three consecutive days (Tuesday, March 20 – Thursday, March 22) with record high temperatures in the low 80s. Additionally, two weekend days (Saturday, March 17 and Sunday, April 1) had partly sunny or mixed weather conditions with high temperatures in the 70s. These nice weather periods allowed for some optimal conditions for obtaining pedestrian and bicycle counts on the Heritage Rail Trail.

On a typical nice weekday, there are between 600 – 900 users of the Heritage Rail Trail. The peak usage times fall between 5:00 PM and 8:00 PM, and there are between 90 and 150 users per hour during these peak times.

On a typical nice weekend, there are between 1,000 – 1,500 users of the Heritage Rail Trail. Peak times vary and are more spread out throughout the day. During the Spring of 2012, the weekend peak periods typically fell between 11:00 AM and 5:00 PM; however, it is expected that this time period would shift earlier in the day during the warmer summer months. Over a seven to eight hour period, there are between 90 and 195 users per hour on the Heritage Rail Trail.

The detailed pedestrian/bicycle count data is provided on the following pages of this Appendix.

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

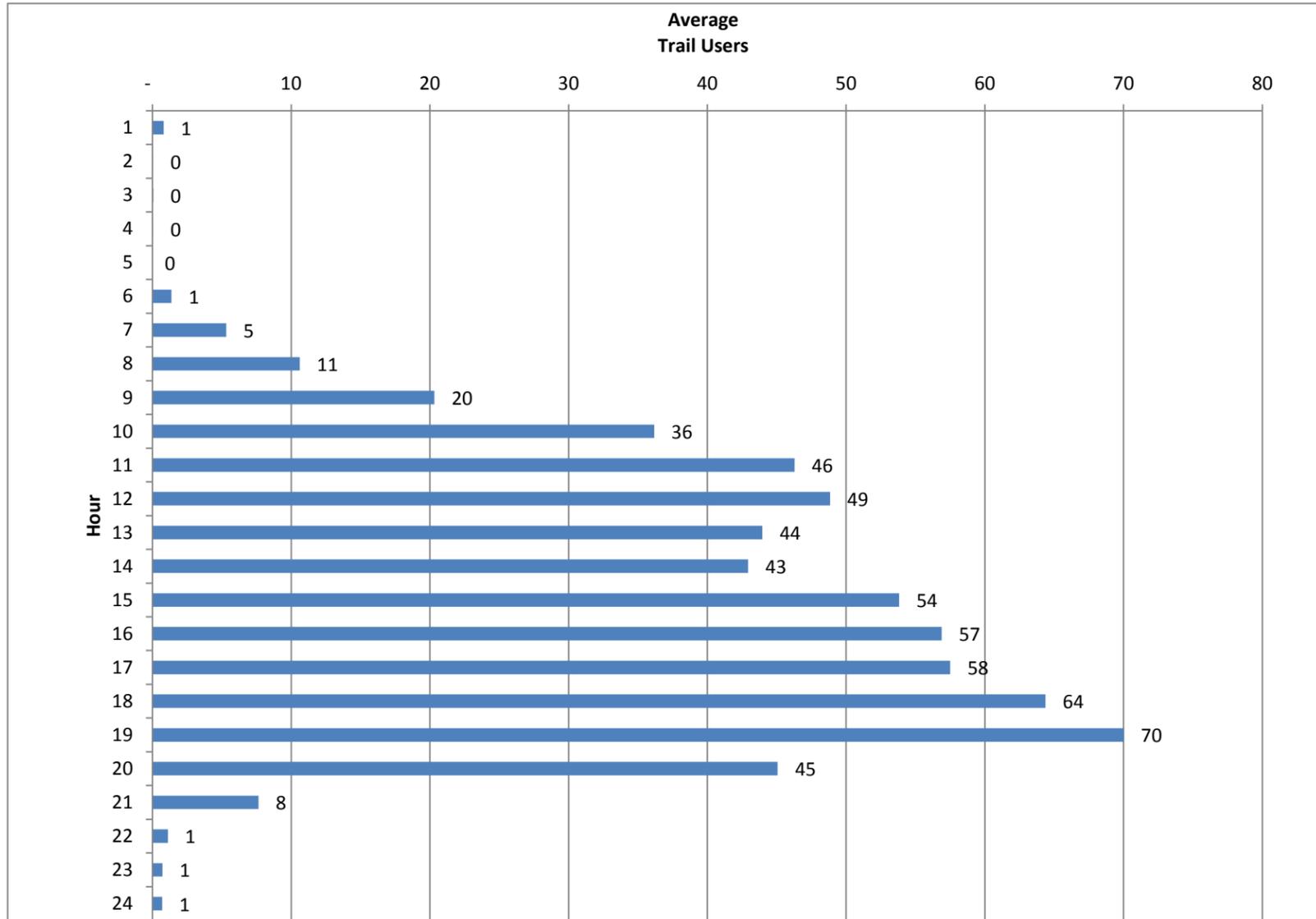
Summary of Adjusted Hourly Count Data by Day

Day of Week	Date	Daytime Weather Conditions	Hour																								Daily Total	Daylight Hourly Average
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Tue	13-Mar-12	nice														24	75	18	0	0	0	0	0	0	0	117	20	
Wed	14-Mar-12	very nice	0	0	0	0	0	0	0	0	0	75	47	48	90	50	65	93	110	138	198	110	12	2	2	6	1,043	85
Thu	15-Mar-12	overcast	5	0	0	0	0	3	2	3	11	21	14	3	12	11	17	27	33	48	83	50	8	2	0	0	348	27
Fri	16-Mar-12	mixed/warm	2	0	0	0	0	2	6	5	8	20	29	33	44	59	54	20	42	69	48	33	9	0	0	0	479	35
Sat	17-Mar-12	mixed/warm	0	0	2	0	0	5	11	39	92	144	195	212	176	119	155	126	89	68	54	27	5	3	6	0	1,523	115
Sun	18-Mar-12	cloudy/rainy	0	0	0	0	0	0	3	6	18	45	59	78	68	71	111	107	137	90	5	2	2	2	0	0	800	61
Mon	19-Mar-12	mixed/warm	0	0	0	0	0	0	3	11	18	39	39	59	38	44	24	9	30	66	101	104	17	5	3	8	614	45
Tue	20-Mar-12	very nice	8	0	0	0	0	2	14	21	27	42	50	51	48	48	81	57	90	129	136	80	10	3	1	0	896	66
Wed	21-Mar-12	very nice	2	0	0	0	0	5	8	10	27	23	79	68	48	62	52	56	74	93	135	115	29	1	0	0	887	65
Thu	22-Mar-12	very nice	0	0	0	0	0	3	9	13	25	34	63	74	36	50	62	63	79	113	162	98	17	0	0	0	901	67
Fri	23-Mar-12	cloudy/rainy	0	0	0	1	0	0	7	16	17	40	24	9	16	33	27	42	11	2	6	2	0	0	0	0	254	19
Sat	24-Mar-12	overcast	0	0	0	0	0	0	6	10	41	80	76	71	30	27	30	46	54	15	6	9	1	0	0	0	500	38
Sun	25-Mar-12	overcast	0	0	0	0	0	1	5	9	17	22	79	81	64	60	56	54	35	42	22	10	5	0	0	0	561	42
Mon	26-Mar-12	mixed/cool	0	0	0	0	0	0	2	7	11	17	9	8	16	15	22	14	22	36	24	21	5	1	1	0	230	17
Tue	27-Mar-12	clear/cool	0	0	0	0	0	3	6	2	8	9	11	6	17	21	30	29	51	54	99	38	2	5	0	0	390	29
Wed	28-Mar-12	mixed/warm	0	0	0	0	0	2	2	10	15	18	13	9	31	21	43	42	31	40	72	72	14	1	1	0	437	32
Thu	29-Mar-12	clear/cool	0	0	0	0	0	2	8	15	14	19	23	16	18	32	38	47	50	62	91	54	8	0	0	0	496	37
Fri	30-Mar-12	mixed/warm	0	0	0	0	0	0	3	2	8	6	7	23	11	14	27	48	47	50	49	11	0	0	0	1	308	23
Sat	31-Mar-12	overcast/cool	0	0	0	0	0	1	7	21	27	41	62	44	22	31	36	30	27	29	10	10	2	0	1	0	401	30
Sun	01-Apr-12	mixed/warm	0	0	0	0	0	0	3	6	18	35	67	101	95	107	144	173	130	104	42	10	5	0	0	0	1,041	79
Mon	02-Apr-12	nice	1	1	0	0	0	0	3	8	9	15	15	23	33	25	34	40	49	105	130	92	13	0	0	0	596	44
Tue	03-Apr-12	mixed	0	0	0	0	0	0	5	10	16	15	15	9	13	6										88	12	
Total			17	1	2	1	0	29	112	223	427	759	972	1,026	923	902	1,130	1,195	1,208	1,352	1,470	946	160	23	15	15	12,907	
% Total			0%	0%	0%	0%	0%	0%	1%	2%	3%	6%	8%	8%	7%	7%	9%	9%	9%	10%	11%	7%	1%	0%	0%	0%	100%	
Hourly Average			1	0	0	0	0	1	5	11	20	36	46	49	44	43	54	57	58	64	70	45	8	1	1	1	587	45

Gray highlighted cells indicate dark/night conditions
 White cells indicate daylight conditions
 Yellow highlighted cells indicate 90 or more users in an hour

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Average hourly volume of pedestrians/bicycles on the Heritage Rail Trail

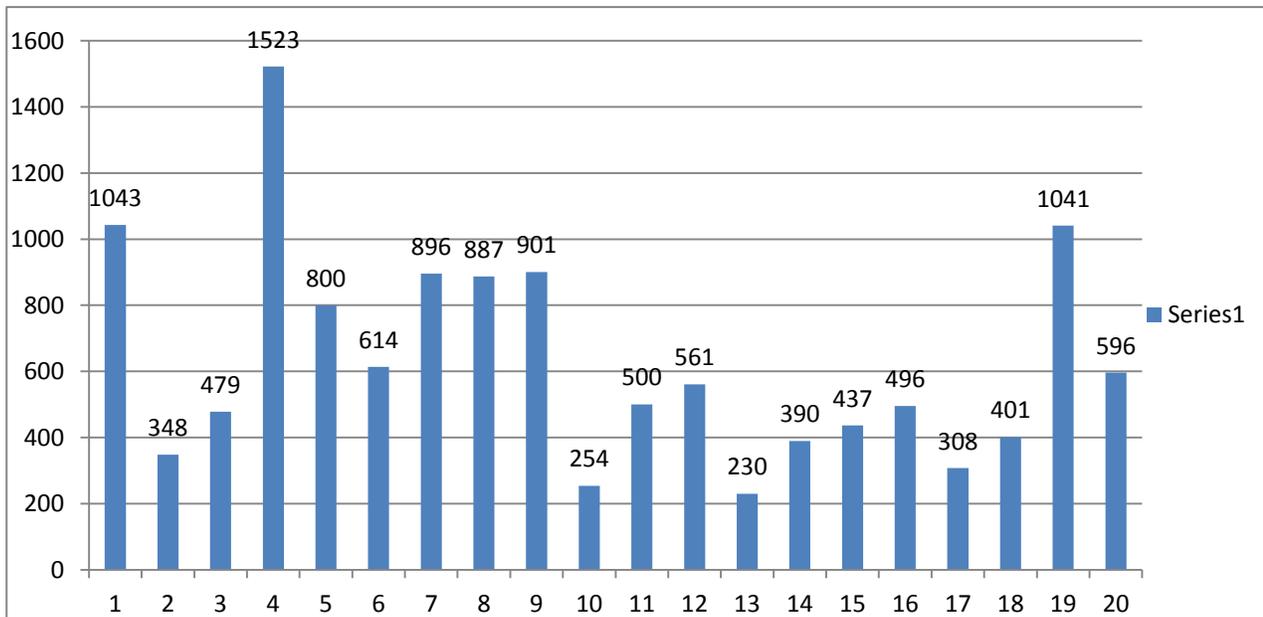


Please note that the above graph shows hourly volumes averaged over three weeks in March/April 2012. Pedestrian and bicycle use of a trail varies greatly between weekday/weekend and based on weather conditions. The above graph does not adequately depict these variables. Please consult for the table above for details.

Heritage Rail Trail Pedestrian/Bicycle Count Data Collection
Hilliard, Ohio

Sensitivity Setting	Day	Date	Daytime Weather	Raw Count	Adj Factor	Adjusted Count
P=2	Tuesday	13-Mar-2012	nice	78	1.5	117
	Wednesday	14-Mar-2012	very nice	695		1043
	Thursday	15-Mar-2012	overcast	232		348
	Friday	16-Mar-2012	mixed/warm	319		479
	Saturday	17-Mar-2012	mixed/warm	1015		1523
	Sunday	18-Mar-2012	cloudy/rainy	533		800
	Monday	19-Mar-2012	mixed/warm	409		614
P=1	Tuesday	20-Mar-2012	very nice	673	1.14	896
	Wednesday	21-Mar-2012	very nice	778		887
	Thursday	22-Mar-2012	very nice	790		901
	Friday	23-Mar-2012	cloudy/rainy	223		254
	Saturday	24-Mar-2012	overcast	439		500
	Sunday	25-Mar-2012	overcast	492		561
	Monday	26-Mar-2012	mixed/cool	202		230
	Tuesday	27-Mar-2012	clear/cool	342		390
	Wednesday	28-Mar-2012	mixed/warm	383		437
	Thursday	29-Mar-2012	clear/cool	435		496
	Friday	30-Mar-2012	mixed/warm	270		308
	Saturday	31-Mar-2012	overcast/cool	352		401
	Sunday	1-Apr-2012	mixed/warm	913		1041
	Monday	2-Apr-2012	nice	523		596
Tuesday	3-Apr-2012	mixed	77	88		

Daily volume of pedestrian/bicycle use of the Heritage Rail Trail in March/April 2012



Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Initial Sensitivity Setting (P=2)

With a sensitivity setting of P=2 the machine counter was missing all moderate speed and fast speed cyclists as well as all side-by-side peds/bikes. In a one-hour period, 59 peds/bikes were manually counted and only 34 were recorded by the machine. Therefore, the sensitivity was changed to P=1 on Tuesday, March 20 @ 4:20 PM. Assume an adjustment factor of 1.5 to adjust the count when P=2 was used.

Date	Day	Hour	Weather		Raw Count		Adjusted Count	
			Temp	Conditions	Hourly	Daily	Hourly	Daily
13-Mar-2012	Tue	14	69	Ptly Cloudy	16	78	24	117
13-Mar-2012	Tue	15	70	Ptly Cloudy	50		75	
13-Mar-2012	Tue	16	71	Ptly Cloudy	12		18	
13-Mar-2012	Tue	17	72	Ptly Cloudy	0		0	
13-Mar-2012	Tue	18	71	Ptly Cloudy	0		0	
13-Mar-2012	Tue	19	69	Clear	0		0	
13-Mar-2012	Tue	20	63	Clear	0		0	
13-Mar-2012	Tue	21	63	Clear	0		0	
13-Mar-2012	Tue	22	56	Clear	0		0	
13-Mar-2012	Tue	23	56	Clear	0		0	
14-Mar-2012	Wed	0	52	Clear	0	695	0	1043
14-Mar-2012	Wed	1	52	Clear	0		0	
14-Mar-2012	Wed	2	50	Clear	0		0	
14-Mar-2012	Wed	3	46	Clear	0		0	
14-Mar-2012	Wed	4	46	Clear	0		0	
14-Mar-2012	Wed	5	46	Clear	0		0	
14-Mar-2012	Wed	6	47	Clear	0		0	
14-Mar-2012	Wed	7	41	Clear	0		0	
14-Mar-2012	Wed	8	47	Clear	0		0	
14-Mar-2012	Wed	9	51	Clear	50		75	
14-Mar-2012	Wed	10	57	Clear	31	47		
14-Mar-2012	Wed	11	63	Clear	32	48		
14-Mar-2012	Wed	12	68	Clear	60	90		
14-Mar-2012	Wed	13	72	Clear	33	50		
14-Mar-2012	Wed	14	74	Ptly Cloudy	43	65		
14-Mar-2012	Wed	15	76	Ptly Cloudy	62	93		
14-Mar-2012	Wed	16	77	Clear	73	110		
14-Mar-2012	Wed	17	76	Clear	92	138		
14-Mar-2012	Wed	18	75	Clear	132	198		
14-Mar-2012	Wed	19	74	Clear	73	110		
14-Mar-2012	Wed	20	69	Clear	8	12		
14-Mar-2012	Wed	21	67	Clear	1	2		
14-Mar-2012	Wed	22	65	Clear	1	2		
14-Mar-2012	Wed	23	63	Clear	4	6		

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Date	Day	Hour	Weather		Raw Count		Adjusted Count	
			Temp	Conditions	Hourly	Daily	Hourly	Daily
15-Mar-2012	Thu	0	62	Clear	3	232	5	348
15-Mar-2012	Thu	1	61	Clear	0		0	
15-Mar-2012	Thu	2	60	Clear	0		0	
15-Mar-2012	Thu	3	59	T-Storm	0		0	
15-Mar-2012	Thu	4	59	T-Storm	0		0	
15-Mar-2012	Thu	5	55	Ptly Cloudy	2		3	
15-Mar-2012	Thu	6	55	Ptly Cloudy	1		2	
15-Mar-2012	Thu	7	60	Overcast	2		3	
15-Mar-2012	Thu	8	59	Overcast	7		11	
15-Mar-2012	Thu	9	60	Overcast	14		21	
15-Mar-2012	Thu	10	60	Overcast	9		14	
15-Mar-2012	Thu	11	61	Overcast	2		3	
15-Mar-2012	Thu	12	62	Overcast	8		12	
15-Mar-2012	Thu	13	62	Overcast	7		11	
15-Mar-2012	Thu	14	60	Overcast	11		17	
15-Mar-2012	Thu	15	62	Ptly Cloudy	18		27	
15-Mar-2012	Thu	16	63	Clear	22		33	
15-Mar-2012	Thu	17	65	Ptly Cloudy	32		48	
15-Mar-2012	Thu	18	66	Clear	55		83	
15-Mar-2012	Thu	19	66	Clear	33		50	
15-Mar-2012	Thu	20	64	Clear	5		8	
15-Mar-2012	Thu	21	63	Ptly Cloudy	1		2	
15-Mar-2012	Thu	22	63	Clear	0		0	
15-Mar-2012	Thu	23	63	Mostly Cloudy	0	0		
16-Mar-2012	Fri	0	61	Sctrd Clouds	1	319	2	479
16-Mar-2012	Fri	1	59	Mostly Cloudy	0		0	
16-Mar-2012	Fri	2	59	Sctrd Clouds	0		0	
16-Mar-2012	Fri	3	60	Mostly Cloudy	0		0	
16-Mar-2012	Fri	4	58	Ptly Cloudy	0		0	
16-Mar-2012	Fri	5	57	Overcast	1		2	
16-Mar-2012	Fri	6	57	T-Storm & Rain	4		6	
16-Mar-2012	Fri	7	56	Lt Rain	3		5	
16-Mar-2012	Fri	8	57	Sctrd Clouds	5		8	
16-Mar-2012	Fri	9	57	Sctrd Clouds	13		20	
16-Mar-2012	Fri	10	59	Clear	19		29	
16-Mar-2012	Fri	11	64	Clear	22		33	
16-Mar-2012	Fri	12	67	Sctrd Clouds	29		44	
16-Mar-2012	Fri	13	69	Mostly Cloudy	39		59	
16-Mar-2012	Fri	14	70	Overcast	36		54	
16-Mar-2012	Fri	15	71	Overcast	13		20	
16-Mar-2012	Fri	16	71	Overcast	28		42	
16-Mar-2012	Fri	17	71	Overcast	46		69	
16-Mar-2012	Fri	18	71	Clear	32		48	
16-Mar-2012	Fri	19	69	Clear	22		33	
16-Mar-2012	Fri	20	65	Clear	6		9	
16-Mar-2012	Fri	21	65	Clear	0		0	
16-Mar-2012	Fri	22	63	Clear	0		0	
16-Mar-2012	Fri	23	60	Clear	0	0		

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Date	Day	Hour	Weather		Raw Count		Adjusted Count	
			Temp	Conditions	Hourly	Daily	Hourly	Daily
17-Mar-2012	Sat	0	59	Clear	0	1015	0	1523
17-Mar-2012	Sat	1	56	Clear	0		0	
17-Mar-2012	Sat	2	55	Clear	1		2	
17-Mar-2012	Sat	3	52	Clear	0		0	
17-Mar-2012	Sat	4	52	Clear	0		0	
17-Mar-2012	Sat	5	53	Fog	3		5	
17-Mar-2012	Sat	6	53	Fog	7		11	
17-Mar-2012	Sat	7	52	Mist	26		39	
17-Mar-2012	Sat	8	48	Fog	61		92	
17-Mar-2012	Sat	9	55	Clear	96		144	
17-Mar-2012	Sat	10	62	Clear	130		195	
17-Mar-2012	Sat	11	68	Clear	141		212	
17-Mar-2012	Sat	12	70	Clear	117		176	
17-Mar-2012	Sat	13	72	Ptly Cloudy	79		119	
17-Mar-2012	Sat	14	73	Overcast	103		155	
17-Mar-2012	Sat	15	76	Mostly Cloudy	84		126	
17-Mar-2012	Sat	16	74	Mostly Cloudy	59		89	
17-Mar-2012	Sat	17	74	Overcast	45		68	
17-Mar-2012	Sat	18	72	Overcast	36		54	
17-Mar-2012	Sat	19	71	Overcast	18		27	
17-Mar-2012	Sat	20	68	Sctrd Clouds	3		5	
17-Mar-2012	Sat	21	68	Overcast	2		3	
17-Mar-2012	Sat	22	66	Ptly Cloudy	4		6	
17-Mar-2012	Sat	23	66	Ptly Cloudy	0	0		
18-Mar-2012	Sun	0	64	Ptly Cloudy	0	533	0	800
18-Mar-2012	Sun	1	63	Clear	0		0	
18-Mar-2012	Sun	2	63	Sctrd Clouds	0		0	
18-Mar-2012	Sun	3	63	Mostly Cloudy	0		0	
18-Mar-2012	Sun	4	61	Clear	0		0	
18-Mar-2012	Sun	5	61	Ptly Cloudy	0		0	
18-Mar-2012	Sun	6	59	Clear	2		3	
18-Mar-2012	Sun	7	59	Sctrd Clouds	4		6	
18-Mar-2012	Sun	8	59	Overcast	12		18	
18-Mar-2012	Sun	9	60	Overcast	30		45	
18-Mar-2012	Sun	10	61	Lt Rain	39		59	
18-Mar-2012	Sun	11	64	Mostly Cloudy	52		78	
18-Mar-2012	Sun	12	66	Mostly Cloudy	45		68	
18-Mar-2012	Sun	13	68	Mostly Cloudy	47		71	
18-Mar-2012	Sun	14	70	Mostly Cloudy	74		111	
18-Mar-2012	Sun	15	73	Mostly Cloudy	71		107	
18-Mar-2012	Sun	16	73	Mostly Cloudy	91		137	
18-Mar-2012	Sun	17	73	Mostly Cloudy	60		90	
18-Mar-2012	Sun	18	64	T-Storm & Rain	3		5	
18-Mar-2012	Sun	19	63	T-Storm & Rain	1		2	
18-Mar-2012	Sun	20	61	T-Storm & Rain	1		2	
18-Mar-2012	Sun	21	61	Sctrd Clouds	1		2	
18-Mar-2012	Sun	22	59	Rain	0		0	
18-Mar-2012	Sun	23	60	Mostly Cloudy	0	0		

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Date	Day	Hour	Weather		Raw Count		Adjusted Count			
			Temp	Conditions	Hourly	Daily	Hourly	Daily		
19-Mar-2012	Mon	0	59	Mostly Cloudy	0		0			
19-Mar-2012	Mon	1	57	Fog	0		0			
19-Mar-2012	Mon	2	55	Fog	0		0			
19-Mar-2012	Mon	3	57	Sctrd Clouds	0		0			
19-Mar-2012	Mon	4	55	Mostly Cloudy	0		0			
19-Mar-2012	Mon	5	55	Mostly Cloudy	0		0			
19-Mar-2012	Mon	6	55	Fog	2		3			
19-Mar-2012	Mon	7	55	Sctrd Clouds	7	409	11	614		
19-Mar-2012	Mon	8	55	Mostly Cloudy	12		18			
19-Mar-2012	Mon	9	60	Mostly Cloudy	26		39			
19-Mar-2012	Mon	10	64	Clear	26		39			
19-Mar-2012	Mon	11	69	Clear	39		59			
19-Mar-2012	Mon	12	73	Clear	25		38			
19-Mar-2012	Mon	13	76	Clear	29		44			
19-Mar-2012	Mon	14	75	Mostly Cloudy	16		24			
19-Mar-2012	Mon	15	72	Lt Rain	6		9			
19-Mar-2012	Mon	16	71	Lt Rain	20		30			
19-Mar-2012	Mon	17	75	Sctrd Clouds	44		66			
19-Mar-2012	Mon	18	75	Ptly Cloudy	67		101			
19-Mar-2012	Mon	19	73	Clear	69		104			
19-Mar-2012	Mon	20	71	Clear	11		17			
19-Mar-2012	Mon	21	70	Clear	3		5			
19-Mar-2012	Mon	22	67	Clear	2		3			
19-Mar-2012	Mon	23	67	Clear	5		8			
20-Mar-2012	Tue	0	66	Clear	5		daily total shown below		8	daily total shown below
20-Mar-2012	Tue	1	64	Clear	0				0	
20-Mar-2012	Tue	2	64	Clear	0				0	
20-Mar-2012	Tue	3	62	Clear	0	0				
20-Mar-2012	Tue	4	60	Clear	0	0				
20-Mar-2012	Tue	5	60	Clear	1	2				
20-Mar-2012	Tue	6	58	Clear	9	14				
20-Mar-2012	Tue	7	58	Clear	14	21				
20-Mar-2012	Tue	8	58	Clear	18	27				
20-Mar-2012	Tue	9	61	Clear	28	42				
20-Mar-2012	Tue	10	67	Clear	33	50				
20-Mar-2012	Tue	11	72	Clear	34	51				
20-Mar-2012	Tue	12	77	Clear	32	48				
20-Mar-2012	Tue	13	79	Clear	32	48				
20-Mar-2012	Tue	14	80	Clear	54	81				
20-Mar-2012	Tue	15	82	Clear	38	57				
20-Mar-2012	Tue	16	82	Mostly Cloudy	60	90				

Record High Temp

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Date	Day	Hour	Weather		Raw Count		Adjusted Count	
			Temp	Conditions	Hourly	Daily	Hourly	Daily

Revised Sensitivity Setting (P=1)

With a sensitivity setting of P=1 the machine counter adequately counted all peds and cyclists (except an occasional extremely fast (~20 MPH+) cyclist). The machine counter still missed counting all side-by-side peds/bikes. In a 45-minute period, 44 peds/bikes were manually counted and 38 were recorded by the machine. In all but one case, the missed counts were due to side-by-side peds/bikes. Therefore, the sensitivity of P=1 was determined to be appropriate. To account for the side-by-side peds/bikes, an adjustment factor of 1.14 was used for a P=1 sensitivity.

Date	Day	Hour	Weather		Raw Count		Adjusted Count	
			Temp	Conditions	Hourly	Daily	Hourly	Daily

Record High Temp	20-Mar-2012	Tue	17	81	Ptly Cloudy	113	673	129	896
	20-Mar-2012	Tue	18			119		136	
	20-Mar-2012	Tue	19			70		80	
	20-Mar-2012	Tue	20	75	Clear	9		10	
	20-Mar-2012	Tue	21	73	Clear	3		3	
	20-Mar-2012	Tue	22	70	Clear	1		1	
	20-Mar-2012	Tue	23	70	Clear	0		0	
Record High Temp	21-Mar-2012	Wed	0	67	Clear	2		2	
	21-Mar-2012	Wed	1	64	Clear	0		0	
	21-Mar-2012	Wed	2	65	Clear	0		0	
	21-Mar-2012	Wed	3			0		0	
	21-Mar-2012	Wed	4	63	Clear	0		0	
	21-Mar-2012	Wed	5	61	Clear	4		5	
	21-Mar-2012	Wed	6	61	Clear	7		8	
	21-Mar-2012	Wed	7	63	Clear	9		10	
	21-Mar-2012	Wed	8	63	Clear	24		27	
	21-Mar-2012	Wed	9	65	Clear	20		23	
	21-Mar-2012	Wed	10	69	Clear	69		79	
	21-Mar-2012	Wed	11	73	Clear	60		68	
	21-Mar-2012	Wed	12	76	Clear	42		48	
	21-Mar-2012	Wed	13	78	Clear	54	778	62	887
	21-Mar-2012	Wed	14	80	Clear	46		52	
	21-Mar-2012	Wed	15		Clear	49		56	
	21-Mar-2012	Wed	16	83	Clear	65		74	
	21-Mar-2012	Wed	17	82	Clear	82		93	
	21-Mar-2012	Wed	18	81	Clear	118		135	
	21-Mar-2012	Wed	19	77	Clear	101		115	
	21-Mar-2012	Wed	20	76	Clear	25		29	
	21-Mar-2012	Wed	21	73	Clear	1		1	
	21-Mar-2012	Wed	22	70	Clear	0		0	
21-Mar-2012	Wed	23	68	Clear	0		0		

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

	Date	Day	Hour	Weather		Raw Count		Adjusted Count	
				Temp	Conditions	Hourly	Daily	Hourly	Daily
Record High Temp	22-Mar-2012	Thu	0	67	Clear	0	790	0	901
	22-Mar-2012	Thu	1	66	Clear	0		0	
	22-Mar-2012	Thu	2	65	Clear	0		0	
	22-Mar-2012	Thu	3	66	Clear	0		0	
	22-Mar-2012	Thu	4	62	Clear	0		0	
	22-Mar-2012	Thu	5	61	Clear	3		3	
	22-Mar-2012	Thu	6	60	Clear	8		9	
	22-Mar-2012	Thu	7	57	Clear	11		13	
	22-Mar-2012	Thu	8	55	Clear	22		25	
	22-Mar-2012	Thu	9	62	Clear	30		34	
	22-Mar-2012	Thu	10	68	Clear	55		63	
	22-Mar-2012	Thu	11	72	Clear	65		74	
	22-Mar-2012	Thu	12	77	Clear	32		36	
	22-Mar-2012	Thu	13	79	Clear	44		50	
	22-Mar-2012	Thu	14	81	Clear	54		62	
	22-Mar-2012	Thu	15	82	Clear	55		63	
	22-Mar-2012	Thu	16	83	Ptly Cloudy	69		79	
	22-Mar-2012	Thu	17	83	Mstly Cloudy	99		113	
	22-Mar-2012	Thu	18	80	Mstly Cloudy	142		162	
	22-Mar-2012	Thu	19	70	Rain	86		98	
	22-Mar-2012	Thu	20	73	Clear	15		17	
	22-Mar-2012	Thu	21	66	Clear	0		0	
	22-Mar-2012	Thu	22	67	Clear	0		0	
22-Mar-2012	Thu	23	66	Clear	0	0			
23-Mar-2012	Fri	0	62	Clear	0	223	0	254	
23-Mar-2012	Fri	1	62	Mstly Cloudy	0		0		
23-Mar-2012	Fri	2	61	Ptly Cloudy	0		0		
23-Mar-2012	Fri	3	60	Clear	1		1		
23-Mar-2012	Fri	4	56	Clear	0		0		
23-Mar-2012	Fri	5	60	Clear	0		0		
23-Mar-2012	Fri	6	61	Ptly Cloudy	6		7		
23-Mar-2012	Fri	7	59	Clear	14		16		
23-Mar-2012	Fri	8	60	Clear	15		17		
23-Mar-2012	Fri	9	62	Mstly Cloudy	35		40		
23-Mar-2012	Fri	10			21		24		
23-Mar-2012	Fri	11	67	Lt Rain	8		9		
23-Mar-2012	Fri	12	70	Sctrd Clouds	14		16		
23-Mar-2012	Fri	13	72	Overcast	29		33		
23-Mar-2012	Fri	14	75	Mstly Cloudy	24		27		
23-Mar-2012	Fri	15	75	Sctrd Clouds	37		42		
23-Mar-2012	Fri	16	72	Sctrd Clouds	10		11		
23-Mar-2012	Fri	17	66	Lt Rain	2		2		
23-Mar-2012	Fri	18	66	Lt Rain	5		6		
23-Mar-2012	Fri	19	65	Lt Rain	2		2		
23-Mar-2012	Fri	20	64	Overcast	0		0		
23-Mar-2012	Fri	21	64	Lt Rain	0		0		
23-Mar-2012	Fri	22	63	Overcast	0		0		
23-Mar-2012	Fri	23	64	Lt Rain	0	0			

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Date	Day	Hour	Weather		Raw Count		Adjusted Count	
			Temp	Conditions	Hourly	Daily	Hourly	Daily
24-Mar-2012	Sat	0	63	Overcast	0	439	0	500
24-Mar-2012	Sat	1	63	Overcast	0		0	
24-Mar-2012	Sat	2	63	Overcast	0		0	
24-Mar-2012	Sat	3	63	Mstly Cloudy	0		0	
24-Mar-2012	Sat	4	54	T-Storms	0		0	
24-Mar-2012	Sat	5	54	Overcast	0		0	
24-Mar-2012	Sat	6	55	Overcast	5		6	
24-Mar-2012	Sat	7	56	Lt Rain	9		10	
24-Mar-2012	Sat	8	56	Mstly Cloudy	36		41	
24-Mar-2012	Sat	9	57	Clear	70		80	
24-Mar-2012	Sat	10	59	Mstly Cloudy	67		76	
24-Mar-2012	Sat	11	59	Overcast	62		71	
24-Mar-2012	Sat	12	59	Overcast	26		30	
24-Mar-2012	Sat	13	60	Overcast	24		27	
24-Mar-2012	Sat	14	62	Overcast	26		30	
24-Mar-2012	Sat	15	62	Overcast	40		46	
24-Mar-2012	Sat	16	63	Overcast	47		54	
24-Mar-2012	Sat	17	63	Overcast	13		15	
24-Mar-2012	Sat	18	60	Overcast	5		6	
24-Mar-2012	Sat	19	59	Overcast	8		9	
24-Mar-2012	Sat	20	57	Overcast	1		1	
24-Mar-2012	Sat	21	55	Ptly Cloudy	0		0	
24-Mar-2012	Sat	22	55	Clear	0		0	
24-Mar-2012	Sat	23	53	Clear	0	0		
25-Mar-2012	Sun	0	52	Clear	0	492	0	561
25-Mar-2012	Sun	1	50	Clear	0		0	
25-Mar-2012	Sun	2	49	Clear	0		0	
25-Mar-2012	Sun	3	52	Clear	0		0	
25-Mar-2012	Sun	4	50	Clear	0		0	
25-Mar-2012	Sun	5	50	Clear	1		1	
25-Mar-2012	Sun	6	52	Clear	4		5	
25-Mar-2012	Sun	7	52	Clear	8		9	
25-Mar-2012	Sun	8	52	Ptly Cloudy	15		17	
25-Mar-2012	Sun	9	52	Overcast	19		22	
25-Mar-2012	Sun	10	54	Overcast	69		79	
25-Mar-2012	Sun	11	56	Overcast	71		81	
25-Mar-2012	Sun	12	57	Overcast	56		64	
25-Mar-2012	Sun	13	57	Overcast	53		60	
25-Mar-2012	Sun	14	58	Overcast	49		56	
25-Mar-2012	Sun	15	59	Overcast	47		54	
25-Mar-2012	Sun	16	58	Overcast	31		35	
25-Mar-2012	Sun	17	58	Overcast	37		42	
25-Mar-2012	Sun	18	58	Overcast	19		22	
25-Mar-2012	Sun	19	58	Haze	9		10	
25-Mar-2012	Sun	20	57	Overcast	4		5	
25-Mar-2012	Sun	21	54	Clear	0		0	
25-Mar-2012	Sun	22	54	Clear	0		0	
25-Mar-2012	Sun	23	51	Clear	0	0		

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

	Date	Day	Hour	Weather		Raw Count		Adjusted Count	
				Temp	Conditions	Hourly	Daily	Hourly	Daily
Spring Break	26-Mar-2012	Mon	0	49	Fog	0	202	0	230
	26-Mar-2012	Mon	1	48	Fog	0		0	
	26-Mar-2012	Mon	2	48	Ptly Cloudy	0		0	
	26-Mar-2012	Mon	3	51	Ptly Cloudy	0		0	
	26-Mar-2012	Mon	4	52	Overcast	0		0	
	26-Mar-2012	Mon	5	49	Overcast	0		0	
	26-Mar-2012	Mon	6	45	Clear	2		2	
	26-Mar-2012	Mon	7	41	Clear	6		7	
	26-Mar-2012	Mon	8	38	Clear	10		11	
	26-Mar-2012	Mon	9	39	Mstly Cloudy	15		17	
	26-Mar-2012	Mon	10	41	Mstly Cloudy	8		9	
	26-Mar-2012	Mon	11	42	Mstly Cloudy	7		8	
	26-Mar-2012	Mon	12	44	Sctrd Clouds	14		16	
	26-Mar-2012	Mon	13	46	Clear	13		15	
	26-Mar-2012	Mon	14	48	Clear	19		22	
	26-Mar-2012	Mon	15	48	Clear	12		14	
	26-Mar-2012	Mon	16	48	Clear	19		22	
	26-Mar-2012	Mon	17	47	Clear	32		36	
	26-Mar-2012	Mon	18	46	Clear	21		24	
	26-Mar-2012	Mon	19	43	Clear	18		21	
	26-Mar-2012	Mon	20	39	Clear	4		5	
	26-Mar-2012	Mon	21	37	Clear	1		1	
	26-Mar-2012	Mon	22	35	Clear	1		1	
26-Mar-2012	Mon	23	33	Clear	0	0			
Spring Break	27-Mar-2012	Tue	0	31	Clear	0	342	0	390
	27-Mar-2012	Tue	1	31	Clear	0		0	
	27-Mar-2012	Tue	2	30	Clear	0		0	
	27-Mar-2012	Tue	3	28	Clear	0		0	
	27-Mar-2012	Tue	4	29	Clear	0		0	
	27-Mar-2012	Tue	5	28	Clear	3		3	
	27-Mar-2012	Tue	6	28	Clear	5		6	
	27-Mar-2012	Tue	7	29	Clear	2		2	
	27-Mar-2012	Tue	8	28	Clear	7		8	
	27-Mar-2012	Tue	9	33	Clear	8		9	
	27-Mar-2012	Tue	10	37	Clear	10		11	
	27-Mar-2012	Tue	11	40	Clear	5		6	
	27-Mar-2012	Tue	12	44	Clear	15		17	
	27-Mar-2012	Tue	13	47	Clear	18		21	
	27-Mar-2012	Tue	14	50	Clear	26		30	
	27-Mar-2012	Tue	15	53	Clear	25		29	
	27-Mar-2012	Tue	16	56	Clear	45		51	
	27-Mar-2012	Tue	17	57	Clear	47		54	
	27-Mar-2012	Tue	18	58	Clear	87		99	
	27-Mar-2012	Tue	19	58	Clear	33		38	
	27-Mar-2012	Tue	20	57	Clear	2		2	
	27-Mar-2012	Tue	21	57	Clear	4		5	
	27-Mar-2012	Tue	22	56	Clear	0		0	
27-Mar-2012	Tue	23	56	Clear	0	0			

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

	Date	Day	Hour	Weather		Raw Count		Adjusted Count	
				Temp	Conditions	Hourly	Daily	Hourly	Daily
Spring Break	28-Mar-2012	Wed	0	53	Clear	0		0	
	28-Mar-2012	Wed	1	51	Clear	0		0	
	28-Mar-2012	Wed	2	50	Clear	0		0	
	28-Mar-2012	Wed	3	48	Clear	0		0	
	28-Mar-2012	Wed	4	51	Clear	0		0	
	28-Mar-2012	Wed	5	53	Clear	2		2	
	28-Mar-2012	Wed	6	58	Mstly Cloudy	2		2	
	28-Mar-2012	Wed	7	59	Clear	9		10	
	28-Mar-2012	Wed	8	59	Sctrd Clouds	13		15	
	28-Mar-2012	Wed	9	60	Mstly Cloudy	16		18	
	28-Mar-2012	Wed	10	63	Overcast	11		13	
	28-Mar-2012	Wed	11	65	Overcast	8		9	
	28-Mar-2012	Wed	12	67	Mstly Cloudy	27		31	
	28-Mar-2012	Wed	13	72	Sctrd Clouds	18	383	21	437
	28-Mar-2012	Wed	14	74	Clear	38		43	
	28-Mar-2012	Wed	15	75	Clear	37		42	
	28-Mar-2012	Wed	16	74	Clear	27		31	
	28-Mar-2012	Wed	17	73	Clear	35		40	
	28-Mar-2012	Wed	18	71	Clear	63		72	
	28-Mar-2012	Wed	19	68	Clear	63		72	
	28-Mar-2012	Wed	20	65	Clear	12		14	
	28-Mar-2012	Wed	21	62	Clear	1		1	
	28-Mar-2012	Wed	22	59	Clear	1		1	
28-Mar-2012	Wed	23	56	Clear	0		0		
Spring Break	29-Mar-2012	Thu	0	54	Clear	0		0	
	29-Mar-2012	Thu	1	51	Clear	0		0	
	29-Mar-2012	Thu	2	48	Clear	0		0	
	29-Mar-2012	Thu	3	45	Clear	0		0	
	29-Mar-2012	Thu	4	42	Clear	0		0	
	29-Mar-2012	Thu	5	44	Clear	2		2	
	29-Mar-2012	Thu	6	42	Clear	7		8	
	29-Mar-2012	Thu	7	41	Clear	13		15	
	29-Mar-2012	Thu	8	40	Clear	12		14	
	29-Mar-2012	Thu	9	44	Clear	17		19	
	29-Mar-2012	Thu	10	47	Clear	20		23	
	29-Mar-2012	Thu	11	49	Clear	14		16	
	29-Mar-2012	Thu	12	50	Clear	16		18	
	29-Mar-2012	Thu	13	51	Clear	28	435	32	496
	29-Mar-2012	Thu	14	54	Clear	33		38	
	29-Mar-2012	Thu	15	56	Clear	41		47	
	29-Mar-2012	Thu	16	57	Clear	44		50	
	29-Mar-2012	Thu	17	57	Clear	54		62	
	29-Mar-2012	Thu	18	55	Clear	80		91	
	29-Mar-2012	Thu	19	53	Clear	47		54	
	29-Mar-2012	Thu	20	49	Clear	7		8	
	29-Mar-2012	Thu	21	45	Clear	0		0	
	29-Mar-2012	Thu	22	42	Clear	0		0	
29-Mar-2012	Thu	23	42	Clear	0		0		

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

	Date	Day	Hour	Weather		Raw Count		Adjusted Count	
				Temp	Conditions	Hourly	Daily	Hourly	Daily
Spring Break	30-Mar-2012	Fri	0	41	Clear	0	270	0	308
	30-Mar-2012	Fri	1	40	Mstly Cloudy	0		0	
	30-Mar-2012	Fri	2	40	Overcast	0		0	
	30-Mar-2012	Fri	3	39	Overcast	0		0	
	30-Mar-2012	Fri	4	39	Lt Rain	0		0	
	30-Mar-2012	Fri	5	38	Lt Rain	0		0	
	30-Mar-2012	Fri	6	38	Overcast	3		3	
	30-Mar-2012	Fri	7	38	Mstly Cloudy	2		2	
	30-Mar-2012	Fri	8	38	Overcast	7		8	
	30-Mar-2012	Fri	9	40	Overcast	5		6	
	30-Mar-2012	Fri	10	42	Mstly Cloudy	6		7	
	30-Mar-2012	Fri	11	45	Mstly Cloudy	20		23	
	30-Mar-2012	Fri	12	49	Mstly Cloudy	10		11	
	30-Mar-2012	Fri	13	54	Ptly Cloudy	12		14	
	30-Mar-2012	Fri	14	60	Clear	24		27	
	30-Mar-2012	Fri	15	64	Clear	42		48	
	30-Mar-2012	Fri	16	66	Clear	41		47	
	30-Mar-2012	Fri	17	70	Ptly Cloudy	44		50	
	30-Mar-2012	Fri	18	75	Sctrd Clouds	43		49	
	30-Mar-2012	Fri	19	73	T-Storms	10		11	
	30-Mar-2012	Fri	20	67	T-Storms	0		0	
	30-Mar-2012	Fri	21	63	Overcast	0		0	
	30-Mar-2012	Fri	22	59	Mstly Cloudy	0		0	
30-Mar-2012	Fri	23	49	Ptly Cloudy	1	1			
31-Mar-2012	Sat	0	46	Mstly Cloudy	0	352	0	401	
31-Mar-2012	Sat	1	44	Ptly Cloudy	0		0		
31-Mar-2012	Sat	2	44	Overcast	0		0		
31-Mar-2012	Sat	3	44	Overcast	0		0		
31-Mar-2012	Sat	4	43	Overcast	0		0		
31-Mar-2012	Sat	5	43	Overcast	1		1		
31-Mar-2012	Sat	6	42	Overcast	6		7		
31-Mar-2012	Sat	7	41	Overcast	18		21		
31-Mar-2012	Sat	8	40	Overcast	24		27		
31-Mar-2012	Sat	9	40	Overcast	36		41		
31-Mar-2012	Sat	10	41	Overcast	54		62		
31-Mar-2012	Sat	11	42	Overcast	39		44		
31-Mar-2012	Sat	12	44	Overcast	19		22		
31-Mar-2012	Sat	13	45	Overcast	27		31		
31-Mar-2012	Sat	14	45	Overcast	32		36		
31-Mar-2012	Sat	15	46	Overcast	26		30		
31-Mar-2012	Sat	16	46	Overcast	24		27		
31-Mar-2012	Sat	17	47	Overcast	25		29		
31-Mar-2012	Sat	18	46	Overcast	9		10		
31-Mar-2012	Sat	19	45	Overcast	9		10		
31-Mar-2012	Sat	20	44	Overcast	2		2		
31-Mar-2012	Sat	21	43	Overcast	0		0		
31-Mar-2012	Sat	22	43	Overcast	1		1		
31-Mar-2012	Sat	23	43	Overcast	0	0			

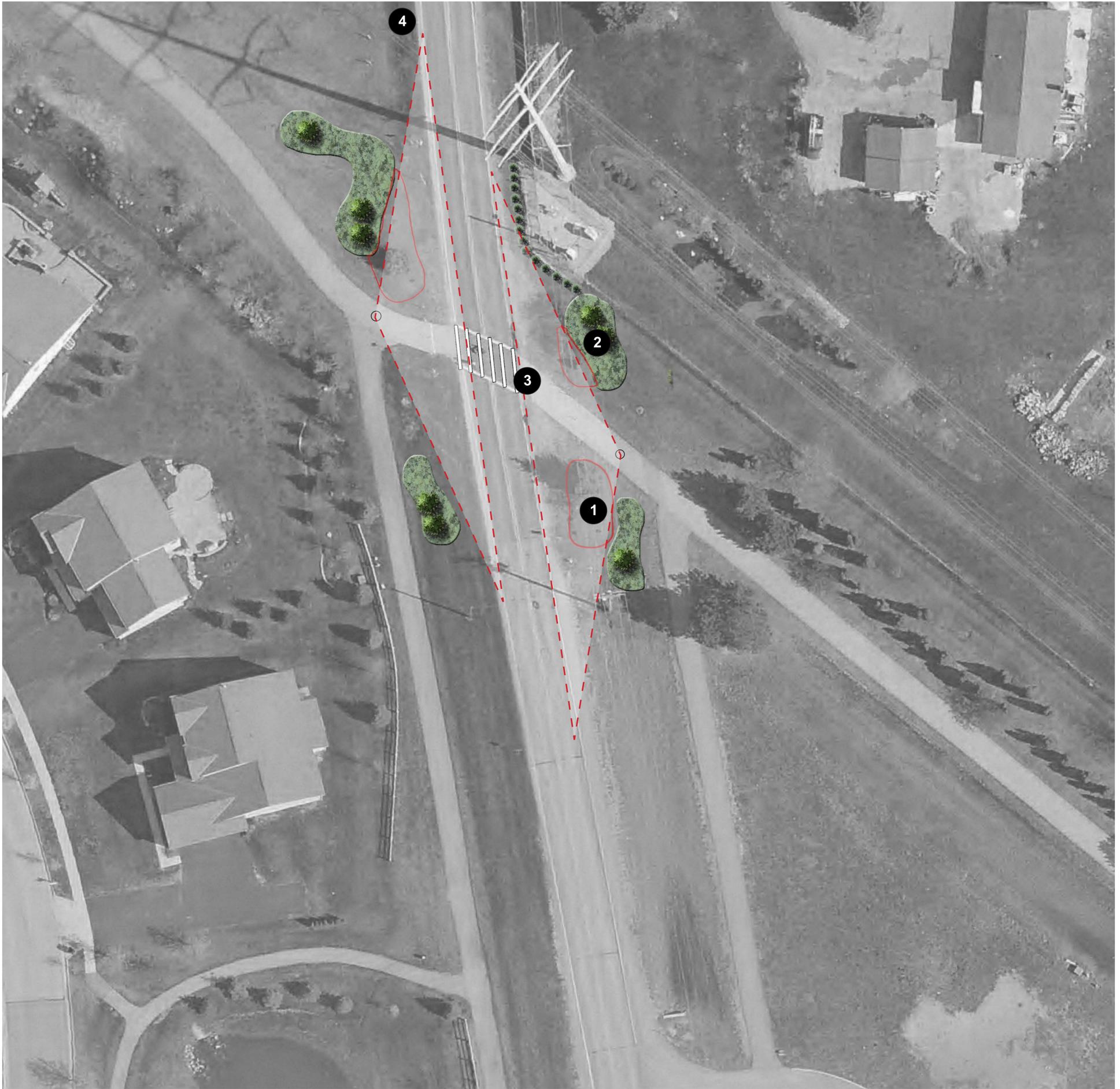
Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Date	Day	Hour	Weather		Raw Count		Adjusted Count	
			Temp	Conditions	Hourly	Daily	Hourly	Daily
1-Apr-2012	Sun	0			0		0	
1-Apr-2012	Sun	1			0		0	
1-Apr-2012	Sun	2	43	Overcast	0		0	
1-Apr-2012	Sun	3	43	Overcast	0		0	
1-Apr-2012	Sun	4	42	Overcast	0		0	
1-Apr-2012	Sun	5	43	Overcast	0		0	
1-Apr-2012	Sun	6	42	Mstly Cloudy	3		3	
1-Apr-2012	Sun	7	42	Clear	5		6	
1-Apr-2012	Sun	8	42	Sctrd Clouds	16		18	
1-Apr-2012	Sun	9	44	Ptly Cloudy	31		35	
1-Apr-2012	Sun	10	48	Sctrd Clouds	59		67	
1-Apr-2012	Sun	11			89		101	
1-Apr-2012	Sun	12	55	Clear	83		95	
1-Apr-2012	Sun	13	60	Clear	94	913	107	1041
1-Apr-2012	Sun	14	65	Clear	126		144	
1-Apr-2012	Sun	15	68	Clear	152		173	
1-Apr-2012	Sun	16	71	Clear	114		130	
1-Apr-2012	Sun	17	70	Overcast	91		104	
1-Apr-2012	Sun	18			37		42	
1-Apr-2012	Sun	19			9		10	
1-Apr-2012	Sun	20	67	Overcast	4		5	
1-Apr-2012	Sun	21	65	Overcast	0		0	
1-Apr-2012	Sun	22	60	Lt Rain	0		0	
1-Apr-2012	Sun	23	53	Haze	0		0	
2-Apr-2012	Mon	0	52	Haze	1		1	
2-Apr-2012	Mon	1	49	Haze	1		1	
2-Apr-2012	Mon	2	48	Haze	0		0	
2-Apr-2012	Mon	3	45	Ptly Cloudy	0		0	
2-Apr-2012	Mon	4	43	Clear	0		0	
2-Apr-2012	Mon	5	41	Clear	0		0	
2-Apr-2012	Mon	6	41	Clear	3		3	
2-Apr-2012	Mon	7	39	Clear	7		8	
2-Apr-2012	Mon	8	41	Mstly Cloudy	8		9	
2-Apr-2012	Mon	9	42	Overcast	13		15	
2-Apr-2012	Mon	10	45	Sctrd Clouds	13		15	
2-Apr-2012	Mon	11	47	Ptly Cloudy	20		23	
2-Apr-2012	Mon	12	49	Clear	29		33	
2-Apr-2012	Mon	13	53	Clear	22	523	25	596
2-Apr-2012	Mon	14	57	Clear	30		34	
2-Apr-2012	Mon	15	58	Clear	35		40	
2-Apr-2012	Mon	16	59	Clear	43		49	
2-Apr-2012	Mon	17	63	Clear	92		105	
2-Apr-2012	Mon	18	63	Clear	114		130	
2-Apr-2012	Mon	19	60	Clear	81		92	
2-Apr-2012	Mon	20	55	Clear	11		13	
2-Apr-2012	Mon	21	53	Clear	0		0	
2-Apr-2012	Mon	22	50	Clear	0		0	
2-Apr-2012	Mon	23	48	Clear	0		0	

Heritage Rail Trail Pedestrian/Bike Count Data Collection
Hilliard, Ohio

Date	Day	Hour	Weather		Raw Count		Adjusted Count	
			Temp	Conditions	Hourly	Daily	Hourly	Daily
3-Apr-2012	Tue	0	47	Clear	0		0	
3-Apr-2012	Tue	1	45	Clear	0		0	
3-Apr-2012	Tue	2	42	Clear	0		0	
3-Apr-2012	Tue	3	42	Clear	0		0	
3-Apr-2012	Tue	4	44	Clear	0		0	
3-Apr-2012	Tue	5	43	Clear	0		0	
3-Apr-2012	Tue	6	40	Clear	4		5	
3-Apr-2012	Tue	7	42	Clear	9	77	10	88
3-Apr-2012	Tue	8			14		16	
3-Apr-2012	Tue	9	49	Clear	13		15	
3-Apr-2012	Tue	10	51	Overcast	13		15	
3-Apr-2012	Tue	11	53	Overcast	8		9	
3-Apr-2012	Tue	12	56	Overcast	11		13	
3-Apr-2012	Tue	13	54	Overcast	5		6	

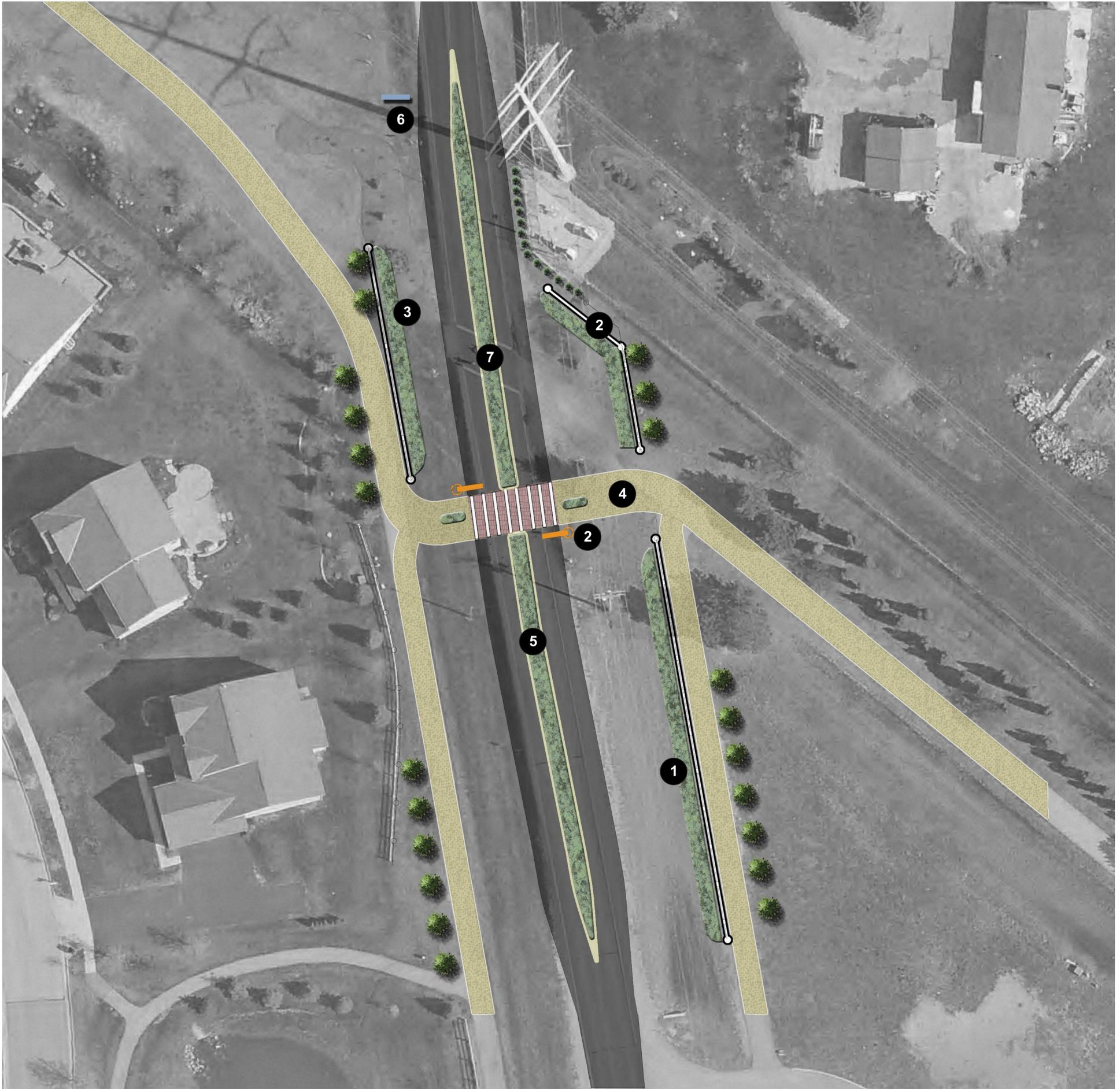
Appendix C
Plan View Schematic Drawings
(Short and Medium Term Recommended Improvements)



GOAL:	OBJECTIVE:
Improve visibility of trail for users from approaching vehicles	① - Relocate existing landscaping
Improve visibility of approaching vehicles from trail users	② - Relocate existing landscape
Method to restrict vehicle access	③ - Retain existing bollard and reflectors
City of Hilliard gateway	④ - Retain existing welcome sign

HILLIARD TRAIL CROSSING OPTION A





GOAL:	OBJECTIVE:
Improve visibility of trail for users from approaching vehicles	1 - Relocate existing landscaping 2 - Add additional indicators of approaching trail crossing such as fence and a hybrid signal beacon - Illuminate crossing
Improve visibility of approaching vehicles from trail users	3 - Relocate existing landscape 4 - Relocate trail further from existing electric substation
Method to restrict vehicle access	5 - Install island
City of Hilliard gateway	6 - Install new gateway sign similar in style to other recently installed gateway signs throughout the City
Calm vehicle speed on Cosgray Road	7 - Install median in Cosgray Road at trail crossing

HILLIARD TRAIL CROSSING OPTION B