



CITY OF LEE'S SUMMIT

PUBLIC WORKS DEPARTMENT/ENGINEERING DIVISION

220 SE GREEN STREET

LEE'S SUMMIT, MISSOURI 64063

(816) 969-1800 FAX 969-1809

MEMORANDUM

Date: August 13, 2012

To: Gary Chullino

From: J. Phil Herrman, EI, Staff Engineer

Through: Michael Park, PE, PTOE, City Traffic Engineer

**Re: Neighborhood Traffic Safety Program
Georgian Drive, Gateway Drive, & Kenwood Drive
Savannah Ridge and Dalton's Ridge Subdivisions**

Public Works has completed a traffic study to address the neighborhood traffic concerns shared by residents along Georgian Drive, Gateway Drive, and Kenwood Drive in the Savannah Ridge and Dalton's Ridge Subdivisions. The scope of this study was based on the application and comments received from the neighborhood meeting held on Thursday, April 26, 2012. As a result of the meeting comments, the original study area (Georgian Drive) was expanded to include Gateway Drive and Kenwood Drive. These roadways were studied with a focus on speeding vehicles. Public Works collected the following data to complete the traffic study:

- Street classification and speed limit,
- Travel speed,
- Traffic volume,
- Crash records, and
- Field review of local conditions such as road width, sidewalks, sight distance, vicinity of parks and schools, residential density, and pedestrian attractions/generators.

Roadway and Area Characteristics

Georgian Drive and Gateway Drive have a 25 mph speed limit and were generally constructed to residential collector street standards. Kenwood Drive also has a 25 mph speed limit and was generally constructed to residential local street standards. There are no areas of limited sight distance on any of the streets under study. Sidewalk runs adjacent to both sides of Georgian Drive and sparsely along Gateway Drive and Kenwood Drive. The residential property along Gateway Drive and Kenwood Drive is largely undeveloped, but platted. Consequently, sidewalk will be constructed along Gatewood Drive and Kenwood Drive to City standard as property development

continues. No multi-use trails currently exist within the study area and it is not a part of the City's "Greenway" plan. Georgian Drive and Gateway Drive are designated bicycle routes on the adopted 2012 Bicycle Transportation Plan. The Savannah Ridge and Dalton's Ridge Subdivision pool are located within the study area, but no other pedestrian attractions exist nearby. The area consists of single family residences.

Crash Data

Staff reviewed the crash data within the study area for the past three years. There was only one crash reported during this period and it was an injury related incident. This particular crash involved a driver who was 9 months pregnant and whom passed out at the wheel and struck a parked car in a private driveway. This crash is not a "preventable" crash and is therefore not included in the analysis. There were several crashes that occurred along Woods Chapel Road near the intersection with Georgian Drive in the past three years. These crashes were also not included due to the fact that Woods Chapel Road is not a part of the study area.

Traffic Analysis

Traffic volume and travel speeds were recorded the third week of May 2011, continuously for a period of two weeks (based on resident feedback) to represent typical traffic conditions. Data was collected in both directions of travel at several locations. The tables below compare the data collected for the 2008 NTSP study with the current data:

2008 Traffic Safety Study Data

Location	85th Percentile Speed	Daily Traffic Volume
Georgian Drive – Woods Chapel Rd to Gateway Dr	29 mph	1644

2012 Traffic Safety Study Data

Location	85th Percentile Speed	Daily Traffic Volume
Georgian Drive – Woods Chapel Rd to Tara Dr	31 mph	1624
Georgian Drive – Tara Drive to Hideaway Hill	29 mph	919
Georgian Drive – Hideaway Hill to Gateway Dr	29 mph	669
Gateway Drive – Georgian Dr to Kenwood Dr	31 mph	633
Kenwood Drive – Blue Jay Dr to Gateway Dr	32 mph	510

The 85th Percentile Speed is that speed at which 85% of the vehicles are traveling at or below and is the industry-accepted standard for evaluating speeds on roadways. All travel speeds less than 15 mph were not factored into the calculation of the 85th percentile speed or average speed; such speeds likely represent vehicular traffic near a driveway destination/origin. If these low travel speeds were factored, the 85th percentile speed may be lower. The traffic volumes within the study area are within a normal range of typical residential collectors and local streets. Residential collector streets and residential local streets are generally designed to accommodate up to 3,000 vehicles per day and 1,500 vehicles per day, respectively. Other factors include street width, pavement design and local accessibility (frequency of driveways).

A comparison of the 2012 data to the 2008 data indicates that traffic conditions are similar. The 85th percentile speeds along the entire street segment from Woods Chapel Road to Gateway Drive may have slightly increased, while the traffic volumes have remained stagnant at just over 1600 vehicles per day at the busiest location (between Woods Chapel Rd and Tara Dr). Traffic volumes decreased traveling from south to north through the Savannah Ridge and Dalton's Ridge neighborhoods. The data indicated a nearly 50/50 directional volume split for traffic along each of the studied roadways over a 24-hour period. This traffic volume pattern was expected and is a result of more and more vehicles accessing the local side streets as they traverse northward.

Project Rating

Based on the data collected and traffic analysis, the following project rating was assigned:

2008 Traffic Safety Study Scores

Location	Project Rating Score
Georgian Dr – Woods Chapel Rd to Gateway Dr	31

2012 Traffic Safety Study Scores

Location	Project Rating Score
Georgian Dr – Woods Chapel Rd to Gateway Dr	39
Gateway Dr – Georgian Dr to Kenwood Dr	51
Kenwood Dr – Blue Jay Dr to Gateway Dr	48

A project must score at least 50 points to be considered for engineered treatments (traffic calming). A score above 50 does not mean an engineered treatment is the only solution, best solution or recommended solution. Any action must be fully supported by the residents within the impact area.

The project score along Georgian Drive increased by 8 points since the previous study. This increase is the result of the slightly higher 85th percentile speeds and the fact that Georgian Drive has been identified as a bicycle route on the adopted 2012 Bicycle Transportation Plan. Also, the impact area was expanded for the 2012 study to include Georgian Drive north of Dalton's Ridge, which includes an additional pedestrian attraction (Dalton's Ridge HOA pool).

Recommendations

Despite the marginal 50 point score that Gateway Drive received, staff does not support engineered treatments along any of the studied streets at this time. The primary reason for this decision is based on the fact that sidewalk does not yet exist along Gateway Drive which resulted in a score above 50 for Gateway Drive. The developer will be required to build sidewalk along Gateway Drive and Kenwood Drive in accordance with the street classification (both sides along Gateway, one side along Kenwood) as the undeveloped plats are sold and houses built. Once the sidewalks are constructed along Gateway Drive and Kenwood Drive, the streets would score 36 and 38, respectively. These conditions place all 3 of the studied streets well below the 50 point threshold for a traffic calming recommendation.

Staff recommends continued community education through activity (news letters, meetings, website, etc.) within the neighborhood that addresses homeowner concerns and encourages safe driving practices. In addition, an increased presence of police enforcement may discourage occasional speeding. Police enforcement should target typical peak traffic periods to have the most impact. The 2012 data indicated an increase in the project score from the 2008 study, which may suggest an upward scoring trend as the neighborhood continues to develop. This location may be reconsidered in the Neighborhood Traffic Safety Program after 24 months, assuming another application is submitted.

Next Steps

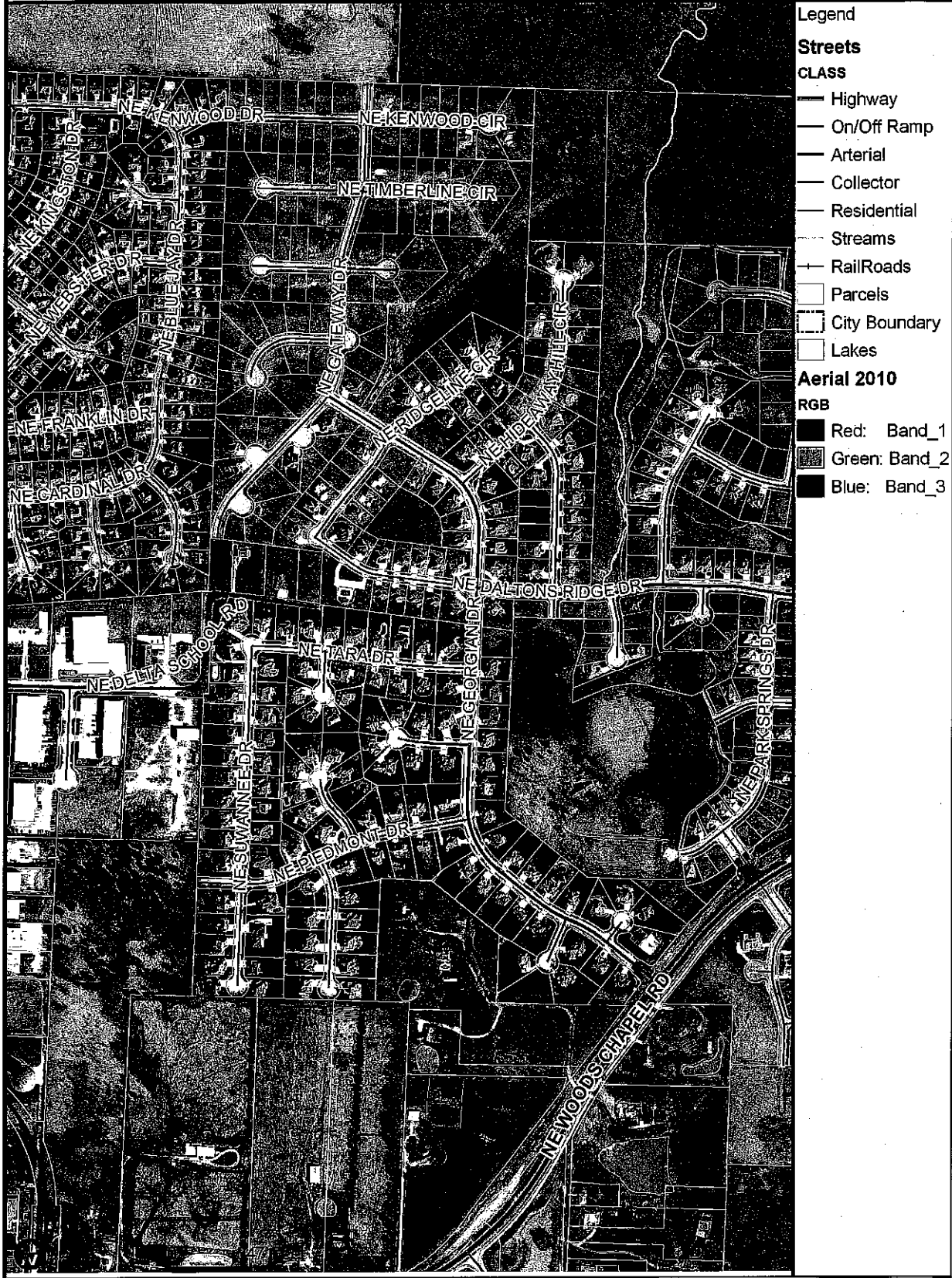
A neighborhood meeting can be scheduled to discuss the results of the traffic study, staff's recommendations, and the Neighborhood Traffic Safety Program.

Please feel free to contact me with any questions. If you would like additional information about the program, please visit the City's website and follow this link to the Neighborhood Traffic Safety Program: <http://www.cityofls.net/Public-Works/Traffic-Transit/Neighborhood-traffic-safety-program.aspx>

Attachments:

- Map
- Rating Scores
- Speed Data

ArcIMS HTML Viewer Map





**CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT**

Engineering Division
220 SE Green Street
Lee's Summit, MO 64063

NEIGHBORHOOD TRAFFIC SAFETY STUDY PROJECT RATING

6/12/2012	Date		39
Georgian Drive	Street Name		
Between Woods Chapel Rd & Gateway Dr	Location		
Collector <input checked="" type="radio"/> Local <input type="radio"/>	Residential Street Classification		
25	Posted Speed Limit (mph)		
30	85% Speed (mph)		
1070	Two-Way ADT		
Check Yes <input checked="" type="checkbox"/>	Bicycle Route		
<input type="radio"/> Neither Side <input type="radio"/> One Side <input checked="" type="radio"/> Both Sides	Sidewalk or Multi-Use Path Adjacent to Street		
No. Disabling Injury Collisions <input type="text" value="0"/> <input type="text" value="0"/>	Number of Preventable Non-Injury Collisions within 1000' in 3 Year Period		
Elementary or Middle School <input type="checkbox"/> <input type="text" value="2"/>	Number of Accessible Schools, Churches, Parks, and Community Centers located within 500'		
55	Number of Dwelling Units Within Impact Area		
SCORE			

Table 1-1 Local Street Rating Criteria		
Criteria	Score	Basis
Speed	0	4 pts for each mph that the 85th percentile speed is over the posted speed limit [(85th percentile speed - posted speed limit) x 4 pts]
Volume	0	1 pt for every 50 vehicles of daily traffic [ADT/50]
Pedestrian Routes/Bikeways	0	10 pts if no continuous sidewalk on either side of the street and 5 pts if the street is a signed bicycle route.
Traffic Collisions	0	3 pts for each preventable collision in a three year period within 1000' of the project area along the subject street segment (10 pts if a disabling injury collision).
Pedestrian Generators	0	3 pts for every school, park, community center, or church located within 1000' of the project area (10 pts if elementary or middle school).
Total Points	0	

Table 1-2 Residential Collector Street Rating Criteria		
Criteria	Score	Basis
Speed	20	4 pts for each mph that the 85th percentile speed is over the posted speed limit [(85th percentile speed - posted speed limit) x 4 pts]
Volume	7	1 pt for every 150 vehicles of daily traffic [ADT/150]
Pedestrian Routes/Bikeways	5	15 pts if no continuous sidewalk on either side of the street or 5 pts if there is only sidewalk on one side of the street. And 5 pts if the street is a signed bicycle route.
Traffic Collisions	0	2 pts for each preventable collision in a three year period within 1000' of the project area along the subject street segment (8 pts if a disabling injury collision).
Pedestrian Generators	6	3 pts for every school, park, community center, or church located within 500' of the project area (10 pts if elementary or middle school).
Residential Density	1	1 pt for every 50 dwelling units within the impact area.
Total Points	39	



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NEIGHBORHOOD TRAFFIC SAFETY STUDY PROJECT RATING

6/12/2012 Date
 Gateway Drive Street Name
 Between Georgian Dr and Kenwood Dr Location
 Collector Local Residential Street Classification
 25 Posted Speed Limit (mph)
 31 85% Speed (mph)
 633 Two-Way ADT
 Check Yes Bicycle Route
 Neither Side One Side Both Sides Sidewalk or Multi-Use Path Adjacent to Street
 No. Disabling Injury Collisions Number of Preventable Non-Injury Collisions within 1000' in 3 Year Period
 Elementary or Middle School Number of Accessible Schools, Churches, Parks, and Community Centers located within 500'
 Number of Dwelling Units Within Impact Area

51

SCORE

Table 1-1 Local Street Rating Criteria		
Criteria	Score	Basis
Speed	0	4 pts for each mph that the 85th percentile speed is over the posted speed limit [(85th percentile speed - posted speed limit) x 4 pts]
Volume	0	1 pt for every 50 vehicles of daily traffic [ADT/50]
Pedestrian Routes/Bikeways	0	10 pts if no continuous sidewalk on either side of the street and 5 pts if the street is a signed bicycle route.
Traffic Collisions	0	3 pts for each preventable collision in a three year period within 1000' of the project area along the subject street segment (10 pts if a disabling injury collision).
Pedestrian Generators	0	3 pts for every school, park, community center, or church located within 1000' of the project area (10 pts if elementary or middle school).
Total Points	0	

Table 1-2 Residential Collector Street Rating Criteria		
Criteria	Score	Basis
Speed	24	4 pts for each mph that the 85th percentile speed is over the posted speed limit [(85th percentile speed - posted speed limit) x 4 pts]
Volume	4	1 pt for every 150 vehicles of daily traffic [ADT/150]
Pedestrian Routes/Bikeways	20	15 pts if no continuous sidewalk on either side of the street or 5 pts if there is only sidewalk on one side of the street. And 5 pts if the street is a signed bicycle route.
Traffic Collisions	0	2 pts for each preventable collision in a three year period within 1000' of the project area along the subject street segment (8 pts if a disabling injury collision).
Pedestrian Generators	3	3 pts for every school, park, community center, or church located within 500' of the project area (10 pts if elementary or middle school).
Residential Density	0	1 pt for every 50 dwelling units within the impact area.
Total Points	51	



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NEIGHBORHOOD TRAFFIC SAFETY STUDY PROJECT RATING

6/19/2012	Date	48
Kenwood Drive	Street Name	
Between Blue Jay Dr and Gateway Dr	Location	
Collector <input type="radio"/> Local <input checked="" type="radio"/>	Residential Street Classification	
25	Posted Speed Limit (mph)	
32	85% Speed (mph)	
510	Two-Way ADT	SCORE
Check Yes <input type="checkbox"/>	Bicycle Route	
<input checked="" type="radio"/> Neither Side <input type="radio"/> One Side <input type="radio"/> Both Sides	Sidewalk or Multi-Use Path Adjacent to Street	
No. Disabling Injury Collisions <input type="text" value="0"/>	Number of Preventable Non-Injury Collisions within 1000' in 3 Year Period	
Elementary or Middle School <input type="checkbox"/>	Number of Accessible Schools, Churches, Parks, and Community Centers located within 1000'	
0	NA	

Table 1-1 Local Street Rating Criteria		
Criteria	Score	Basis
Speed	28	4 pts for each mph that the 85th percentile speed is over the posted speed limit [(85th percentile speed – posted speed limit) x 4 pts]
Volume	10	1 pt for every 50 vehicles of daily traffic [ADT/50]
Pedestrian Routes/Bikeways	10	10 pts if no continuous sidewalk on either side of the street and 5 pts if the street is a signed bicycle route.
Traffic Collisions	0	3 pts for each preventable collision in a three year period within 1000' of the project area along the subject street segment (10 pts if a disabling injury collision).
Pedestrian Generators	0	3 pts for every school, park, community center, or church located within 1000' of the project area (10 pts if elementary or middle school).
Total Points	48	

Table 1-2 Residential Collector Street Rating Criteria		
Criteria	Score	Basis
Speed	0	4 pts for each mph that the 85th percentile speed is over the posted speed limit [(85th percentile speed – posted speed limit) x 4 pts]
Volume	0	1 pt for every 150 vehicles of daily traffic [ADT/150]
Pedestrian Routes/Bikeways	0	15 pts if no continuous sidewalk on either side of the street or 5 pts if there is only sidewalk on one side of the street. And 5 pts if the street is a signed bicycle route.
Traffic Collisions	0	2 pts for each preventable collision in a three year period within 1000' of the project area along the subject street segment (8 pts if a disabling injury collision).
Pedestrian Generators	0	3 pts for every school, park, community center, or church located within 500' of the project area (10 pts if elementary or middle school).
Residential Density	0	1 pt for every 50 dwelling units within the impact area.
Total Points	0	

SPEED STUDY

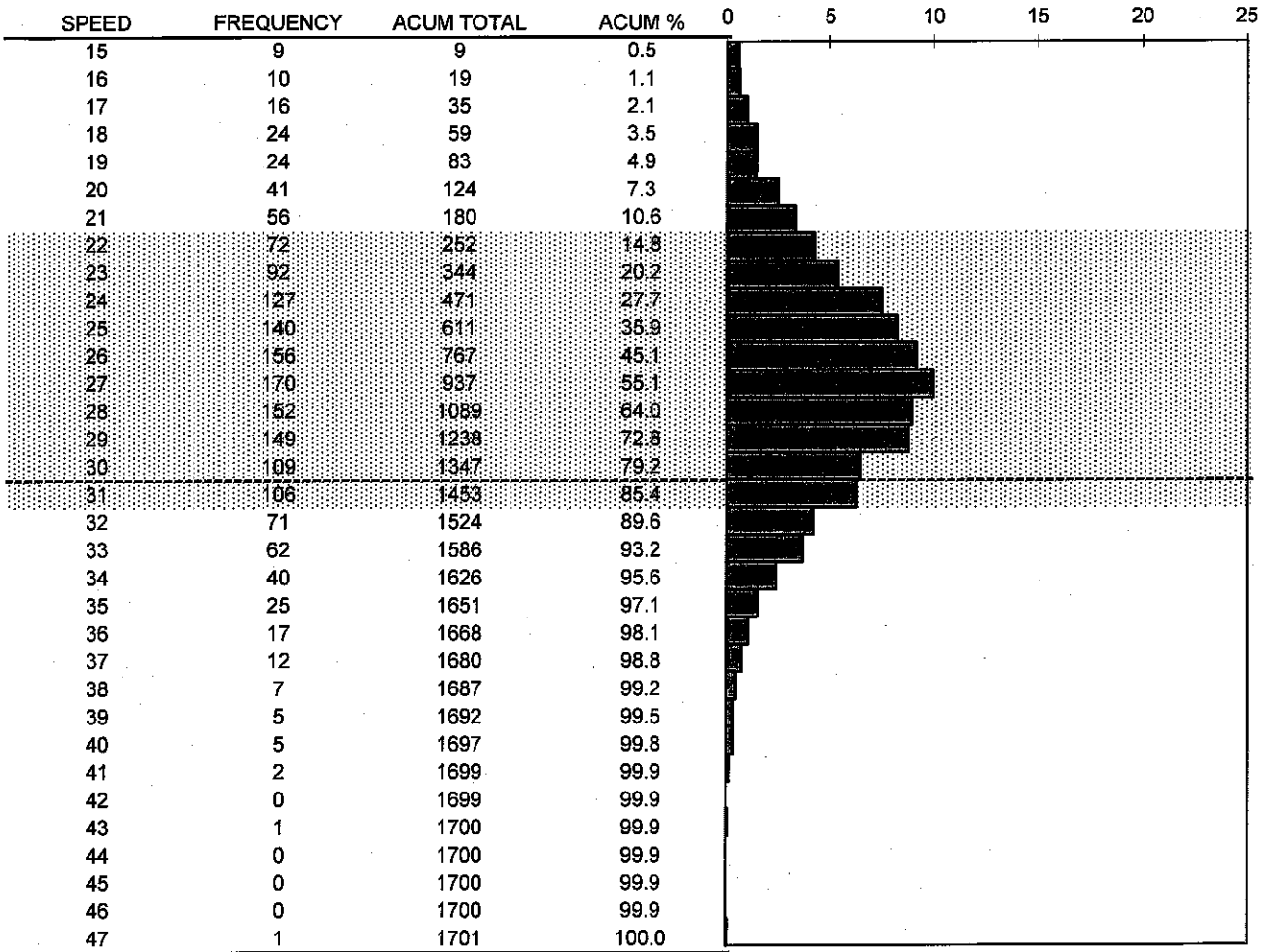
**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: June 13, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Georgian Drive, North of Georgian Ct
TIME START:
TIME END:

PERCENTAGE BREAKDOWN



AVERAGE SPEED = 27.
50th PERCENTILE = 26.5
85th PERCENTILE = 30.9
90th PERCENTILE = 32.1
95th PERCENTILE = 33.7

PACE = 22 - 31
VEHICLES IN PACE = 1273
% IN PACE = 74.8
% BELOW PACE = 10.6
% ABOVE PACE = 14.6

SAMPLE VARIANCE = 19.8652772
STANDARD DEVIATION = 4.457048
RANGE 1*S = 70.60553
RANGE 2*S = 95.00294
RANGE 3*S = 99.76484

SPEED STUDY

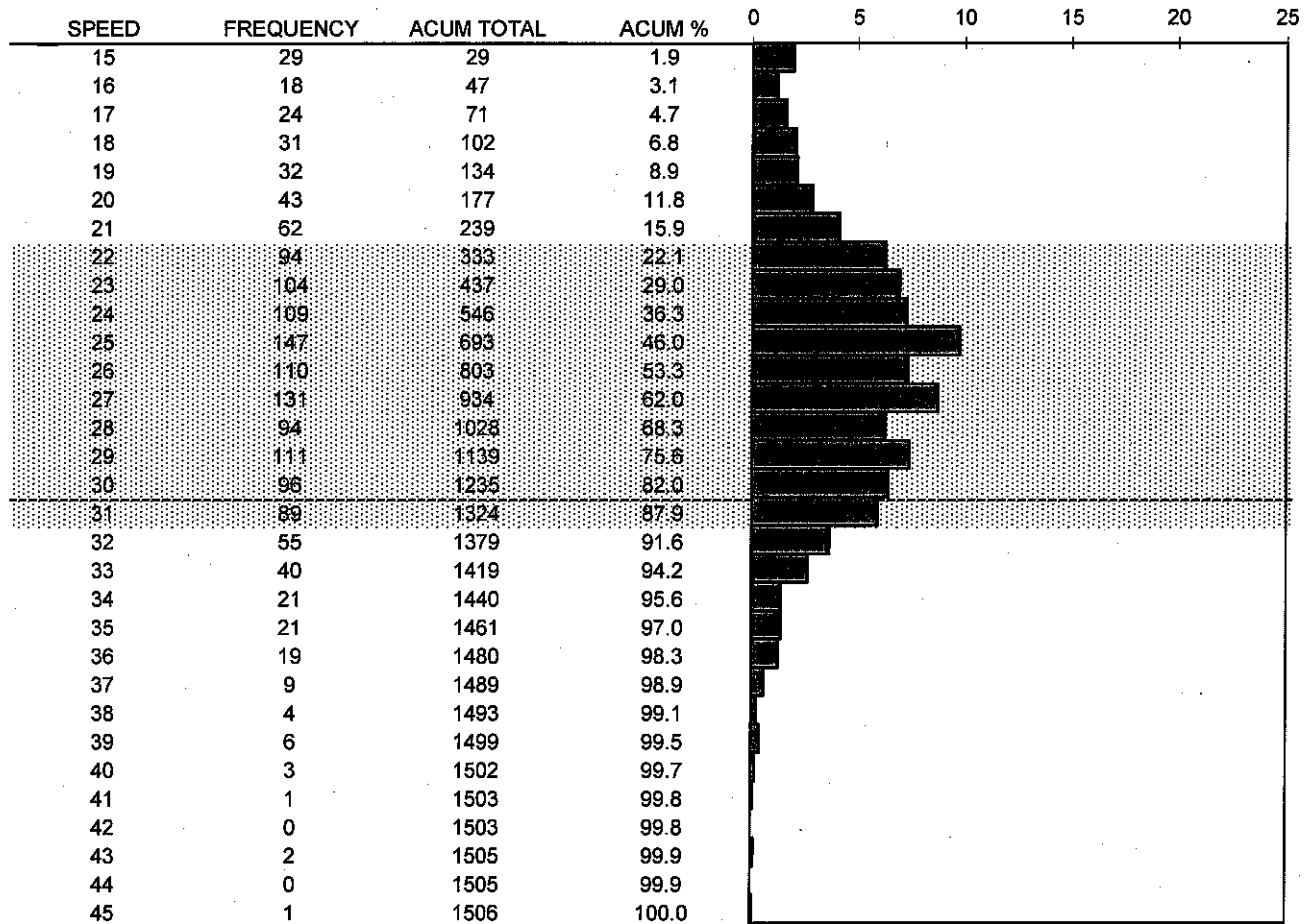
**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: Saturday, June 16, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Georgian Drive, North of Georgian Ct
TIME START:
TIME END:

PERCENTAGE BREAKDOWN



AVERAGE SPEED = 26.1
50th PERCENTILE = 25.5
85th PERCENTILE = 30.5
90th PERCENTILE = 31.6
95th PERCENTILE = 33.6

PACE = 22 - 31
VEHICLES IN PACE = 1085
% IN PACE = 72.
% BELOW PACE = 15.9
% ABOVE PACE = 12.1

SAMPLE VARIANCE = 23.5820082
STANDARD DEVIATION = 4.856131
RANGE 1*S = 70.25232
RANGE 2*S = 95.08633
RANGE 3*S = 99.7344

SPEED STUDY

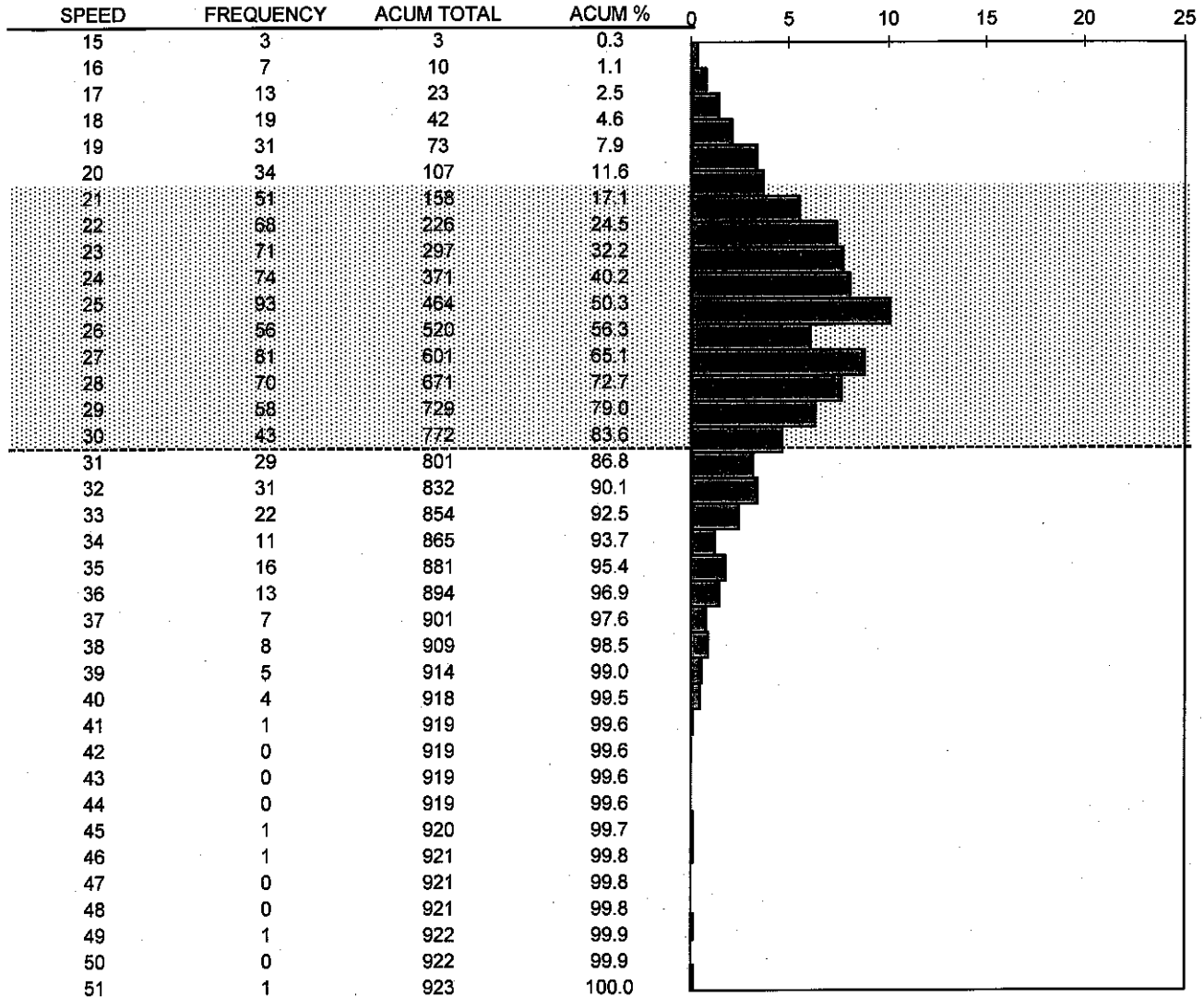
**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: Tuesday, June 18, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Georgian Drive, North of Tara Drive
TIME START:
TIME END:

PERCENTAGE BREAKDOWN



AVERAGE SPEED = 26.
50th PERCENTILE = 25.
85th PERCENTILE = 30.4
90th PERCENTILE = 32.
95th PERCENTILE = 34.7

PACE = 21 - 30
VEHICLES IN PACE = 665
% IN PACE = 72.
% BELOW PACE = 11.6
% ABOVE PACE = 16.4

SAMPLE VARIANCE = 24.9702775
STANDARD DEVIATION = 4.9970269
RANGE 1*S = 75.1896
RANGE 2*S = 96.53304
RANGE 3*S = 99.56664

SPEED STUDY

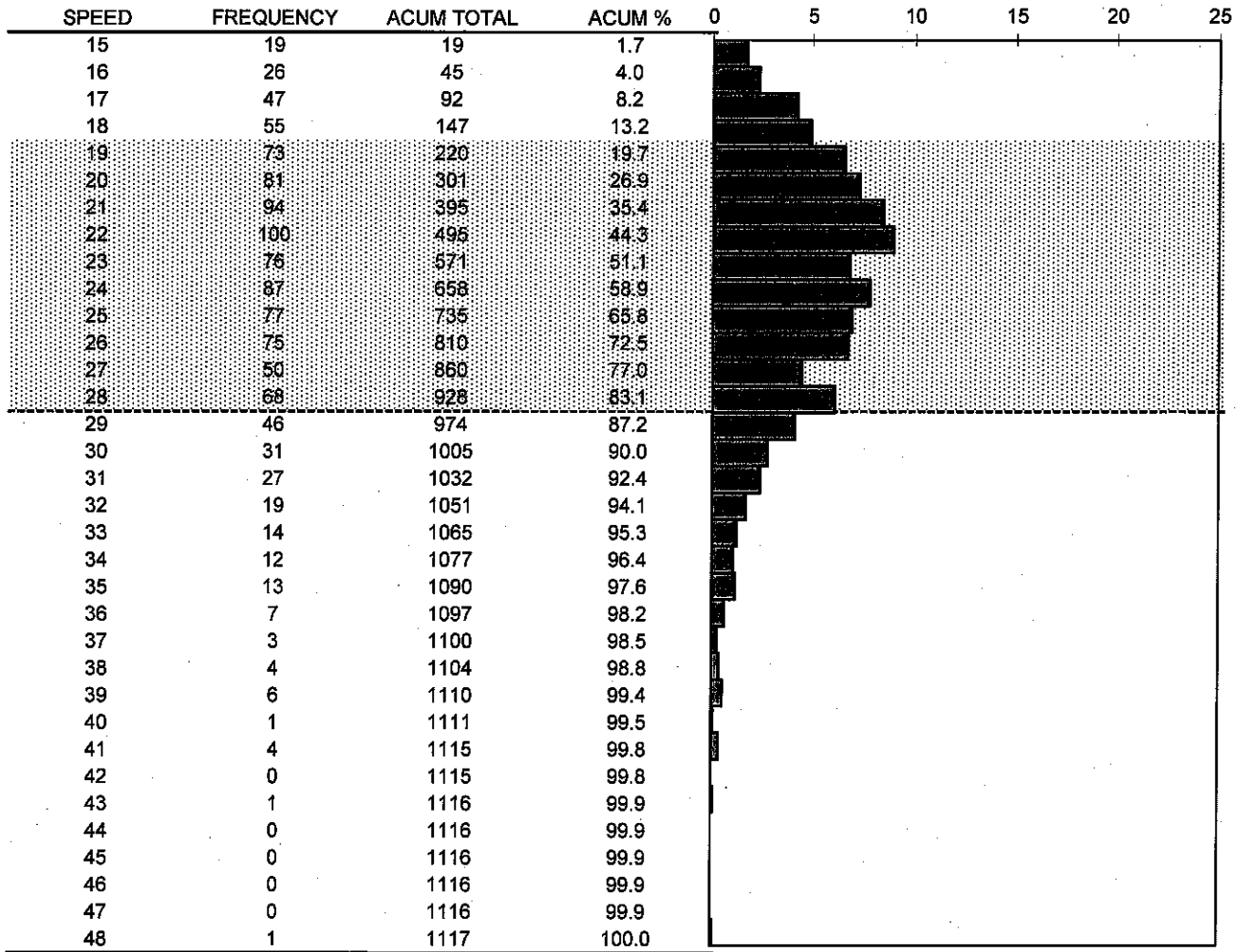
**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: Saturday, June 23, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Georgian Drive, North of Tara Drive
TIME START:
TIME END:

PERCENTAGE BREAKDOWN



AVERAGE SPEED = 23.9
50th PERCENTILE = 22.8
85th PERCENTILE = 28.5
90th PERCENTILE = 30.
95th PERCENTILE = 32.7

PACE = 19 - 28
VEHICLES IN PACE = 781
% IN PACE = 69.9
% BELOW PACE = 13.2
% ABOVE PACE = 16.9

SAMPLE VARIANCE = 25.5789333
STANDARD DEVIATION = 5.057562
RANGE 1*S = 69.91943
RANGE 2*S = 96.41898
RANGE 3*S = 99.37332

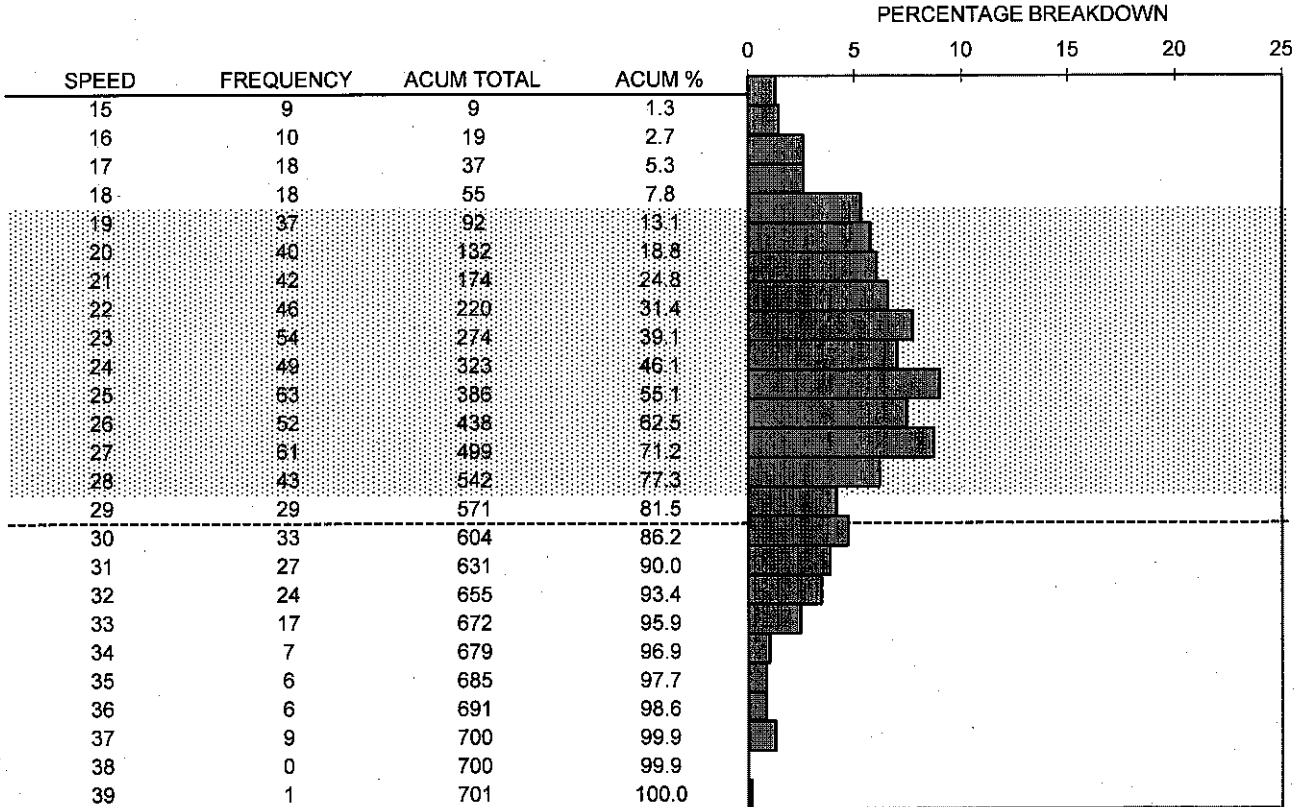
SPEED STUDY

**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: Tuesday, June 12, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Georgian Drive, North of Hideaway Hill Cir
TIME START:
TIME END:



AVERAGE SPEED = 25.
50th PERCENTILE = 24.4
85th PERCENTILE = 29.8
90th PERCENTILE = 31.
95th PERCENTILE = 32.6

PACE = 19 - 28
VEHICLES IN PACE = 487
% IN PACE = 69.5
% BELOW PACE = 7.8
% ABOVE PACE = 22.7

SAMPLE VARIANCE = 22.8843367
STANDARD DEVIATION = 4.7837576
RANGE 1*S = 68.33096
RANGE 2*S = 96.86163
RANGE 3*S = 100.

SPEED STUDY

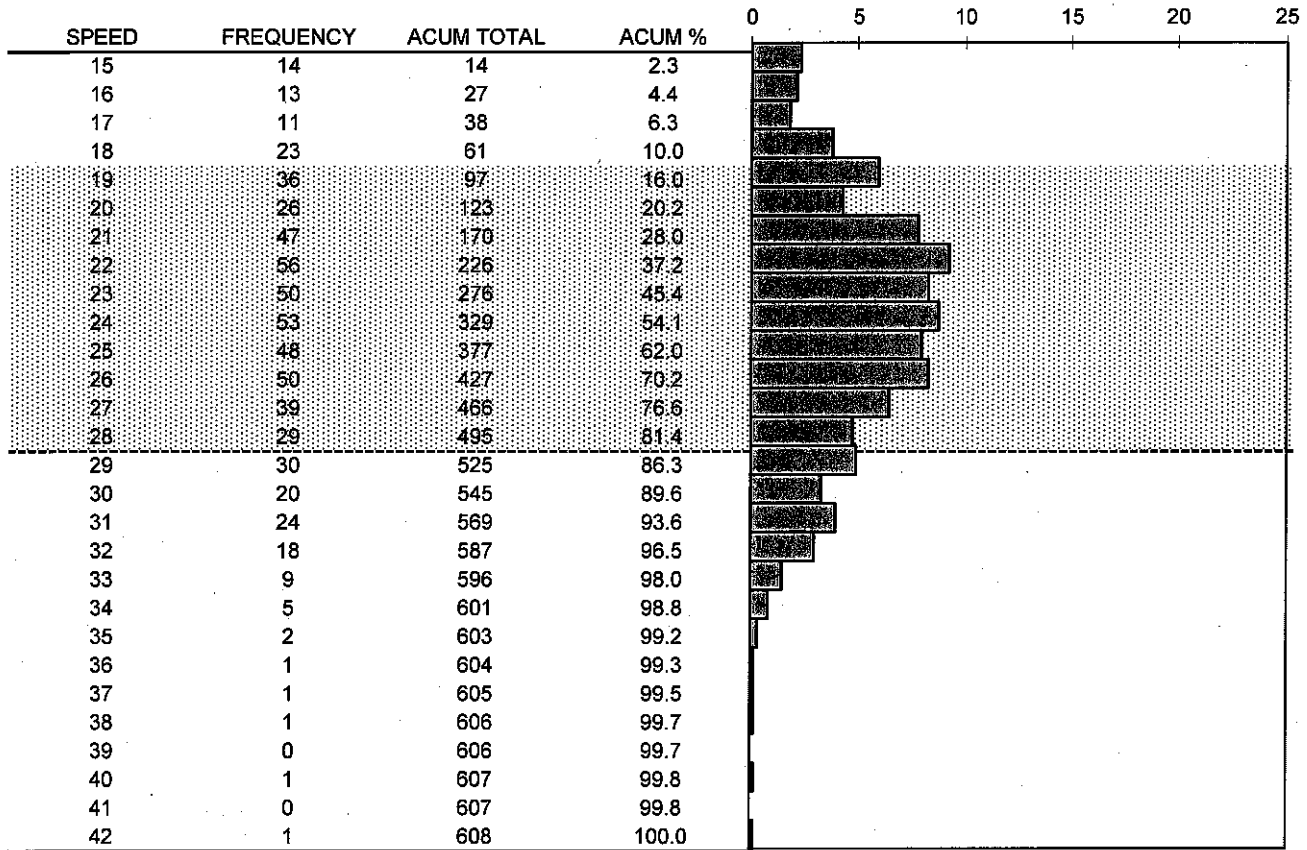
**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: June 16, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Georgian Drive, North of Hideaway Hill Cir
TIME START:
TIME END:

PERCENTAGE BREAKDOWN



AVERAGE SPEED = 24.3
50th PERCENTILE = 23.5
85th PERCENTILE = 28.7
90th PERCENTILE = 30.1
95th PERCENTILE = 31.5

PACE = 19 - 28
VEHICLES IN PACE = 434
% IN PACE = 71.4
% BELOW PACE = 10.
% ABOVE PACE = 18.6

SAMPLE VARIANCE = 20.9661596
STANDARD DEVIATION = 4.5788819
RANGE 1*S = 65.46053
RANGE 2*S = 98.02631
RANGE 3*S = 99.50658

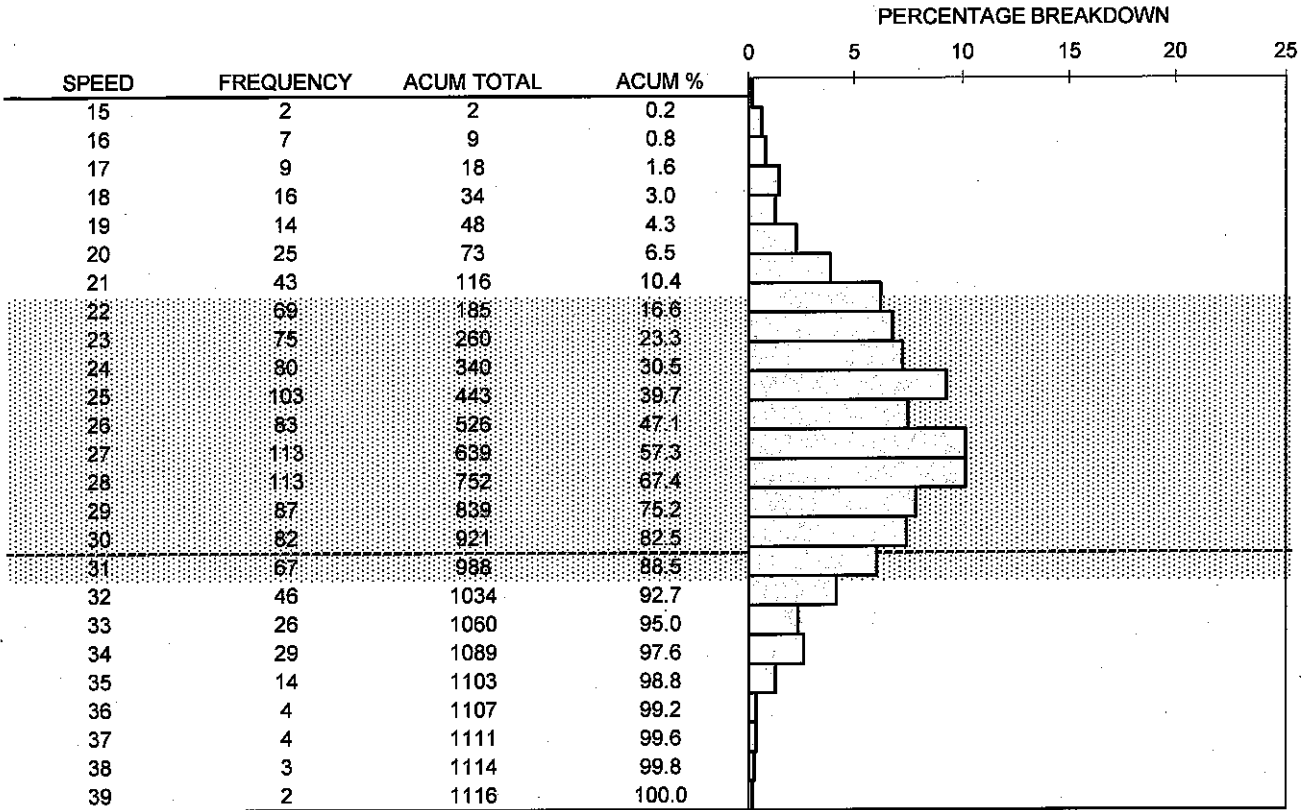
SPEED STUDY

**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: Tuesday, July 24, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Gateway Drive, North of Woods Edge Ct
TIME START:
TIME END:



AVERAGE SPEED = 26.6
50th PERCENTILE = 26.3
85th PERCENTILE = 30.4
90th PERCENTILE = 31.4
95th PERCENTILE = 33.

PACE = 22 - 31
VEHICLES IN PACE = 872
% IN PACE = 78.1
% BELOW PACE = 10.4
% ABOVE PACE = 11.5

SAMPLE VARIANCE = 17.0687778
STANDARD DEVIATION = 4.1314377
RANGE 1*S = 72.13261
RANGE 2*S = 95.96774
RANGE 3*S = 100.

SPEED STUDY

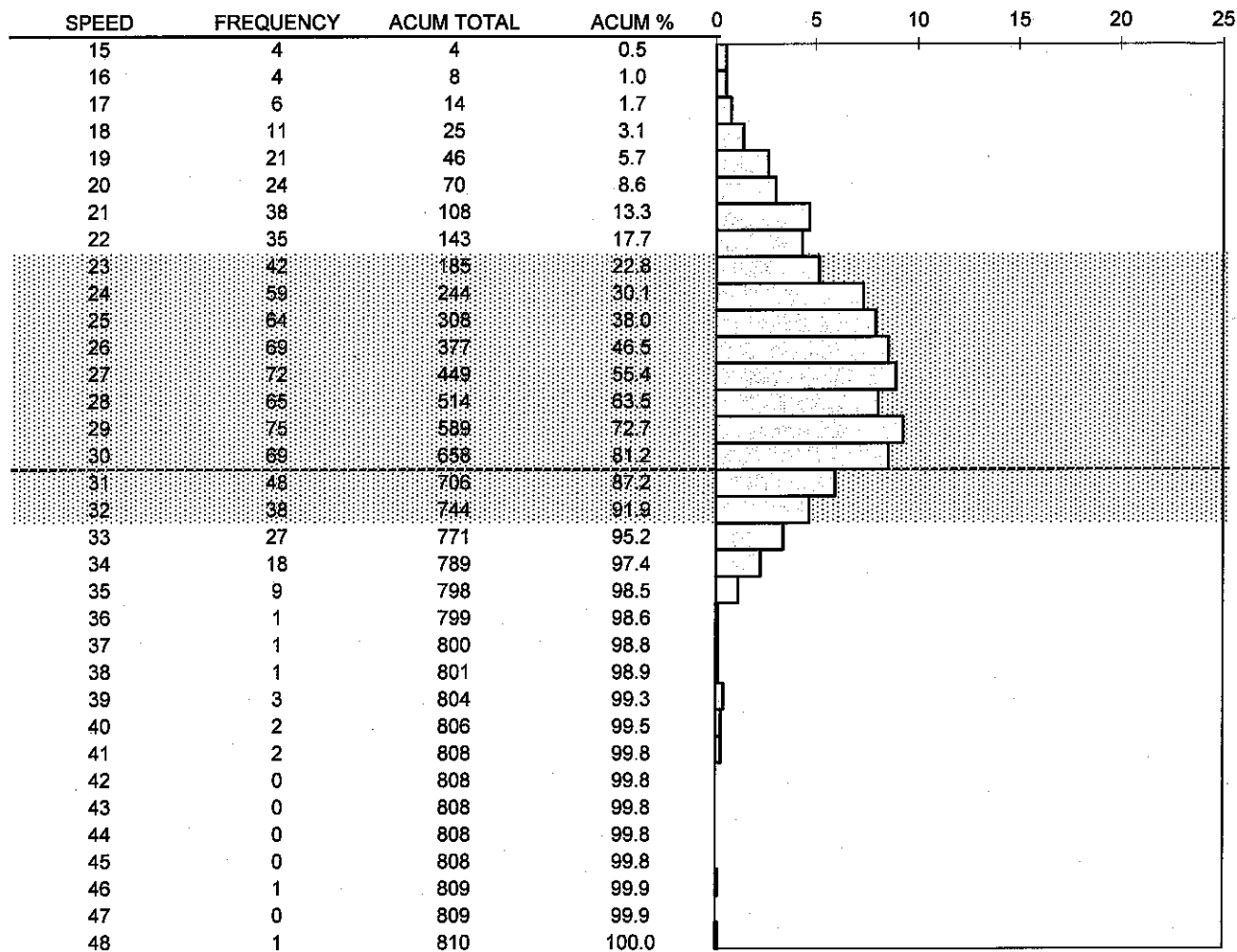
**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: Saturday, July 28, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Gateway Drive, North of Woods Edge Ct
TIME START:
TIME END:

PERCENTAGE BREAKDOWN



AVERAGE SPEED = 26.7
50th PERCENTILE = 26.4
85th PERCENTILE = 30.6
90th PERCENTILE = 31.6
95th PERCENTILE = 32.9

PACE = 23 - 32
VEHICLES IN PACE = 601
% IN PACE = 74.2
% BELOW PACE = 17.7
% ABOVE PACE = 8.1

SAMPLE VARIANCE = 20.0106151
STANDARD DEVIATION = 4.4733226
RANGE 1*S = 73.82716
RANGE 2*S = 96.79012
RANGE 3*S = 99.50617

SPEED STUDY

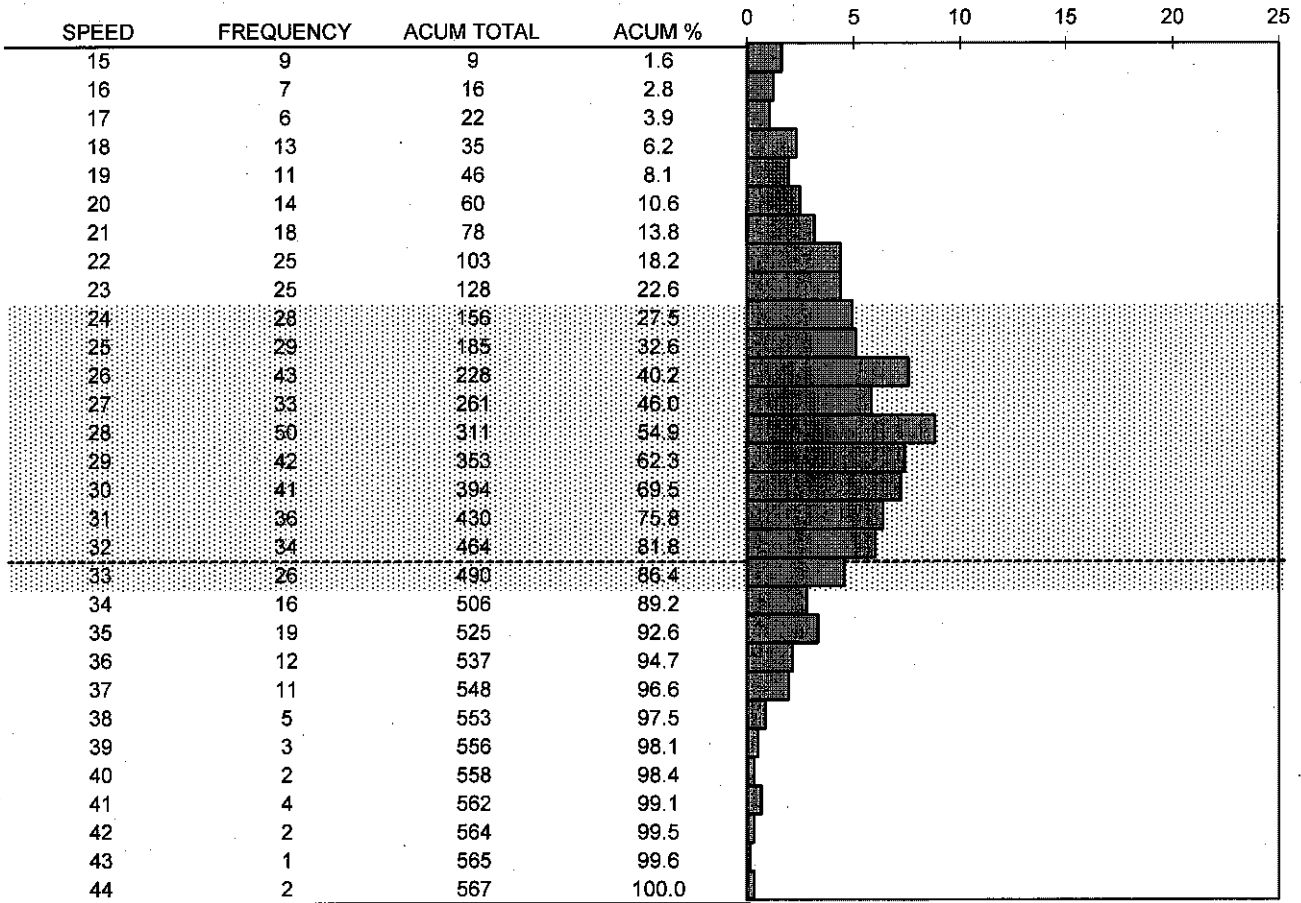
**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: June 19, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Kenwood Drive, West of Gateway Drive
TIME START:
TIME END:

PERCENTAGE BREAKDOWN



AVERAGE SPEED = 27.7
50th PERCENTILE = 27.5
85th PERCENTILE = 32.7
90th PERCENTILE = 34.2
95th PERCENTILE = 36.2

PACE = 24 - 33
VEHICLES IN PACE = 362
% IN PACE = 63.8
% BELOW PACE = 22.6
% ABOVE PACE = 13.6

SAMPLE VARIANCE = 30.8435134
STANDARD DEVIATION = 5.5536937
RANGE 1*S = 72.66314
RANGE 2*S = 94.709
RANGE 3*S = 100.

SPEED STUDY

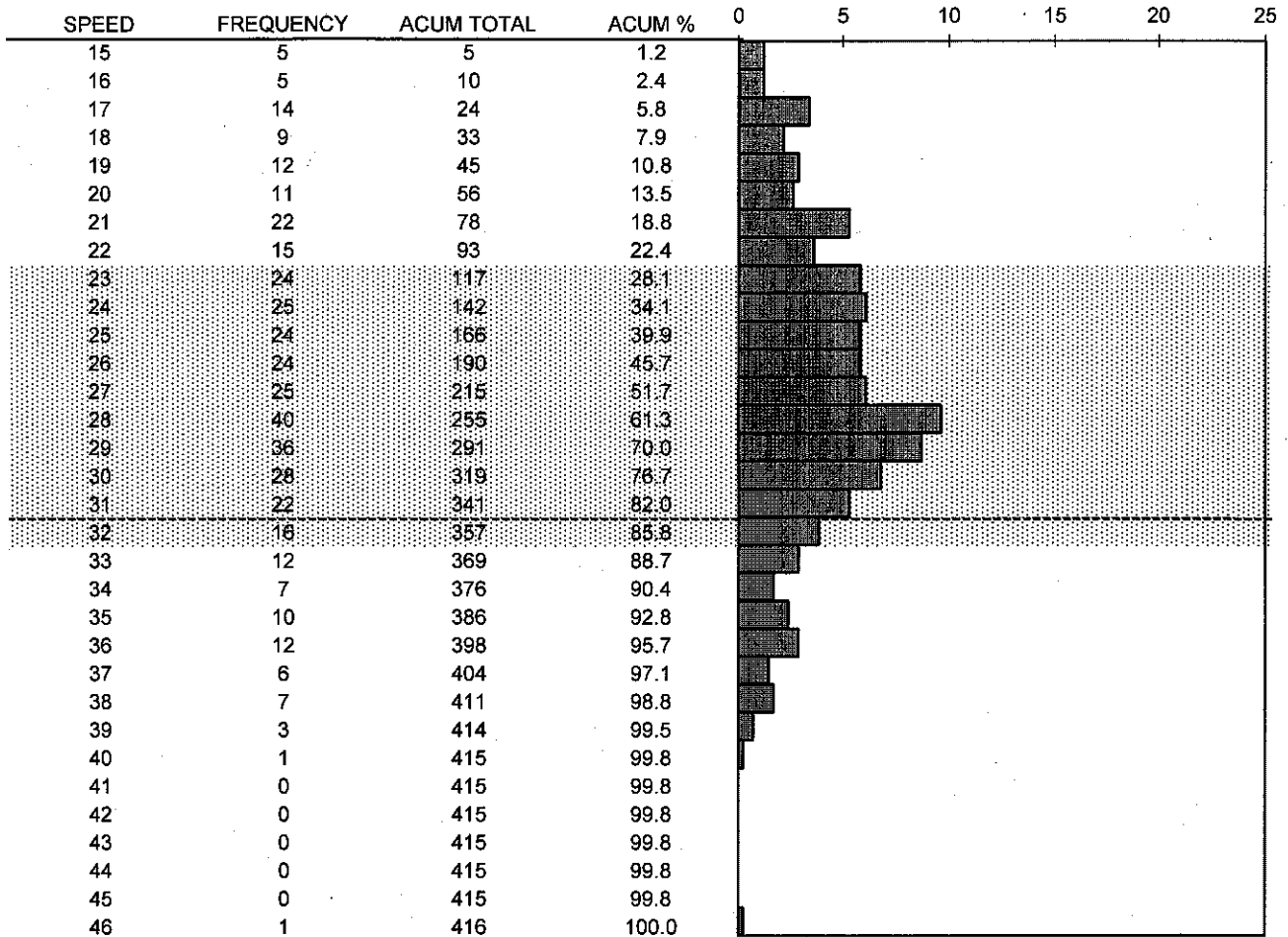
**CITY OF LEE'S SUMMIT
PUBLIC WORKS - TRAFFIC ENGINEERING**

CITY: Lee's Summit
OBSERVER: JPH
DATE: Saturday, June 23, 2012

COUNTY: Jackson
SPEED LIMIT: 25
DIRECTION: Both

LOCATION: Kenwood Drive, West of Gateway Drive
TIME START:
TIME END:

PERCENTAGE BREAKDOWN



AVERAGE SPEED = 26.8
50th PERCENTILE = 26.7
85th PERCENTILE = 31.8
90th PERCENTILE = 33.8
95th PERCENTILE = 35.8

PACE = 23 - 32
VEHICLES IN PACE = 264
% IN PACE = 63.5
% BELOW PACE = 22.4
% ABOVE PACE = 14.2

SAMPLE VARIANCE = 30.422237
STANDARD DEVIATION = 5.5156357
RANGE 1*S = 72.35577
RANGE 2*S = 95.91347
RANGE 3*S = 99.75961