

City of Columbia

701 East Broadway, Columbia, Missouri 65201



Agenda Item Number: B 245-15

Department Source: Public Works

To: City Council

From: City Manager & Staff

Council Meeting Date: 8/17/2015

Re: Recommended Speed Limit Changes for Portions of State Route K and North Providence Road

Documents Included With This Agenda Item

Council Memo, Resolution/Ordinance

Supporting documentation includes: Location Diagram for State Route K, MoDOT Letter, Location Diagram for Providence Road, Providence Road Counter Placement Location Map, North Providence Road Summary Report, Policy Resolution 182-09

Executive Summary

Staff is proposing to amend Chapter 14 of the City Code to change the speed limit on a portion of State Route K from Scott Boulevard to Coneflower Avenue, and on North Providence Road from Vandiver Drive to Blue Ridge Road.

Discussion

MoDOT conducted a speed study on State Route K, from Scott Boulevard to Coneflower Avenue, which is currently posted at 55 mph. The speed study considered crash history, presence of pedestrians and bicyclists, the number of access points, and actual vehicle speeds. They have recommended lowering the speed limit to 45 mph on the portion of State Route K, from Scott Boulevard to Coneflower Avenue (see attached MoDOT letter).

City staff conducted a similar speed study on North Providence Road, between Vandiver Drive and Blue Ridge Road, which is currently posted at 35 mph. This section of road recorded the 85th percentile speed of 48.27 mph. Due to a limited number of access points, no residential driveways, and adequate pedestrian facilities, staff recommends that the speed limit be raised to 45 mph. Artificially, low speed limits can create a larger variation of speeds driven along the roadway so when a speed limit is properly set, traffic flow improves and there are fewer accidents. Since more than 2,000 vehicles travel on this section of North Providence Road per day, it meets the criteria for an increased speed limit of 45 mph as established per Policy Resolution 182-09 (attached).

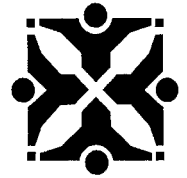
Fiscal Impact

Short-Term Impact: \$155 for new speed limit signs

Long-Term Impact: None

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Vision, Strategic & Comprehensive Plan Impact

Vision Impact: Transportation

Strategic Plan Impact: Infrastructure

Comprehensive Plan Impact: Infrastructure

Suggested Council Action

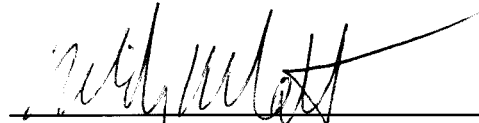
Pass the ordinance amending Chapter 14 of the City Code to lower the speed limit on State Route K, from Scott Boulevard to Coneflower Avenue, from 55 mph to 45 mph; and raise the speed limit on North Providence Road from Vandiver Drive to Blue Ridge Road from 35 mph to 45 mph.

Legislative History

None



Department Approved



City Manager Approved

Introduced by _____

First Reading _____

Second Reading _____

Ordinance No. _____

Council Bill No. B 245-15

AN ORDINANCE

amending Chapter 14 of the City Code to revise the speed limit on portions of Providence Road and State Route K; and fixing the time when this ordinance shall become effective.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. Chapter 14 of the Code of Ordinances of the City of Columbia, Missouri, is hereby amended as follows:

Material to be deleted in ~~strikeout~~; material to be added underlined.

Sec. 14-223. Speed restrictions on city streets.

(a) No person shall drive a vehicle on any street at a greater speed than is reasonable and approved under conditions then and there existing.

(b) No person shall, where no special hazard exists, drive a vehicle at a speed in excess of the following:

...

(5) Thirty-five miles per hour, night and day:

Port Way, from I-70 Drive Southeast to Bull Run Drive.

~~*Providence Road*, from the north City limit to Stadium Boulevard.~~

Providence Road, from the north City limit to Blue Ridge Road.

Providence Road, from Vandiver Drive to Stadium Boulevard.

Providence West Outer Roadway.

...

(7) Forty-five miles per hour, night and day:

. . .

Ponderosa Street, from Nifong Boulevard to the south City limit.

Providence Road, from Blue Ridge Road to Vandiver Drive.

Range Line Street, from the north City limit to Vanwood Way.

. . .

State Farm Parkway.

~~*State Route K*, from two hundred seventy-five (275) feet west of Coneflower Avenue to State Route 163.~~

State Route K, from the west City limit to State Route 163.

State Route WW, from three thousand (3,000) feet east of Roseta Avenue to three hundred (300) feet east of Stone Mountain Parkway.

(9) Fifty-five miles per hour, night and day:

. . .

State Route B, from four hundred seventy (470) feet north of North Browns Station Road to North Browns Station Road.

~~*State Route K*, from the west City limit to two hundred seventy-five (275) feet west of Coneflower Avenue.~~

State Route WW, from three hundred (300) feet east of Stone Mountain Parkway to the east City limit.

. . .

SECTION 2. This ordinance shall be in full force and effect from and after its passage.

PASSED this _____ day of _____, 2015.

ATTEST:

City Clerk

Mayor and Presiding Officer

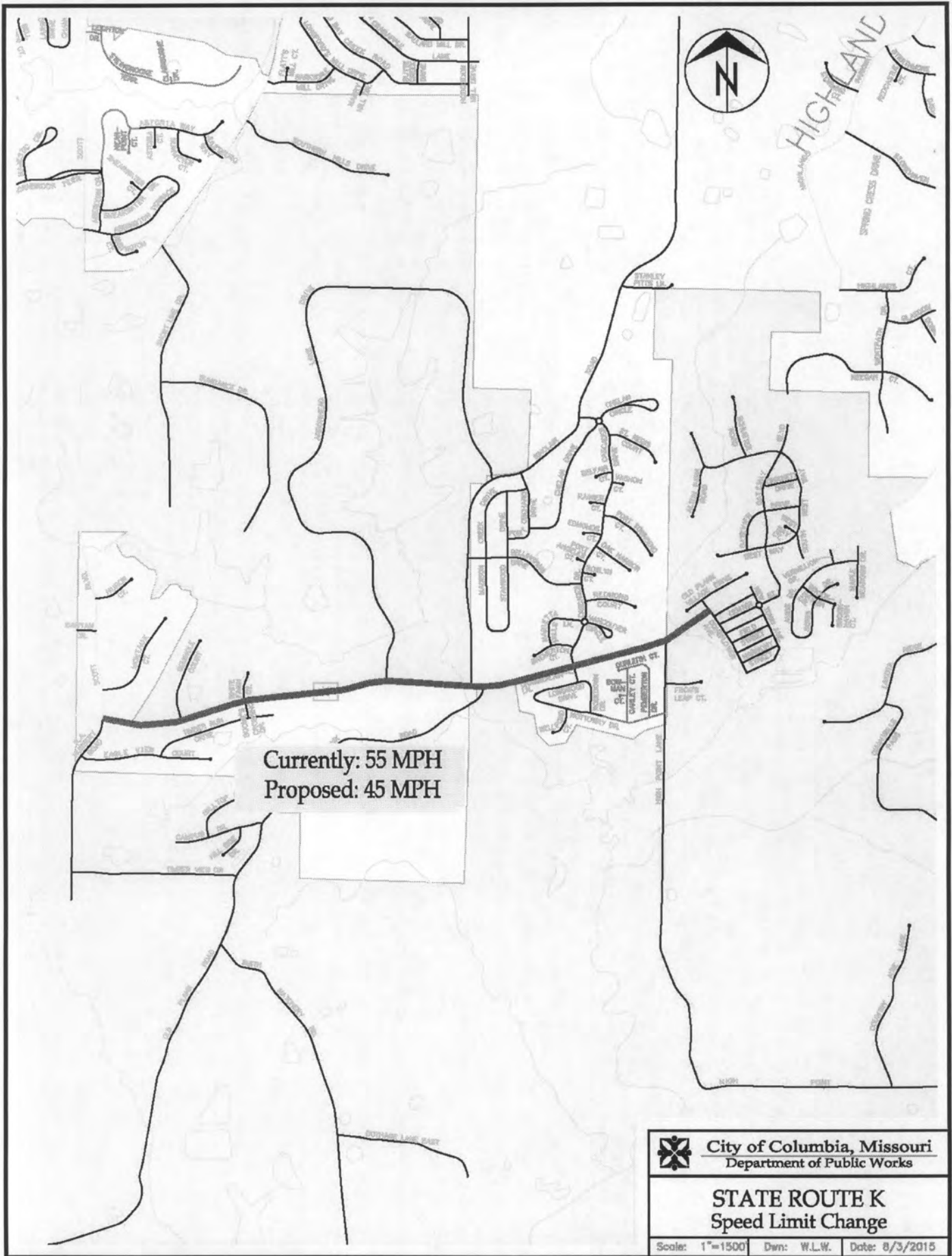
APPROVED AS TO FORM:

City Counselor



SUPPORTING DOCUMENTS INCLUDED WITH THIS AGENDA ITEM ARE AS FOLLOWS:

Location Diagram for State Route K, MoDOT Letter, Location Diagram for Providence Road, Providence Road Counter Placement Location Map, North Providence Road Summary Report, Policy Resolution 182-09





Missouri Department of Transportation

Central District
David T. Silvester, District Engineer

1511 Missouri Blvd.
P.O. Box 718
Jefferson City, Missouri 65102
573.751.3322
Fax: 573.522.1059
1.888.ASK MODOT (275.6636)

July 9, 2015

John Glascock, P.E.
Director of Public Works
City of Columbia, Public Works
P.O. Box 6015
Columbia, MO 65205-6015

Dear Mr. Glascock,

The Missouri Department of Transportation has conducted a speed study for the section of State Route K within the City Limits of Columbia. The speed study considered crash history, presence of pedestrians and bicyclist, the number of access points, and actual vehicle speeds. The study reviewed the segment from Scott Blvd to Coneflower Ave. The current speed limit along this segment of Route K is 55 MPH. We are proposing extending the 45 MPH speed limit from Coneflower Ave to Scott Blvd.

If the City agrees with the speed limit change, please update the City Ordinance to reflect the propose speed limit of 45 MPH. Once the Ordinance is changed, notify John Schaefer from our Traffic Division to have the signs updated for these segments. John can be reached at 573-751-7380 or via email at John.SchaeferJr@modot.mo.gov.

Thank you for your consideration.

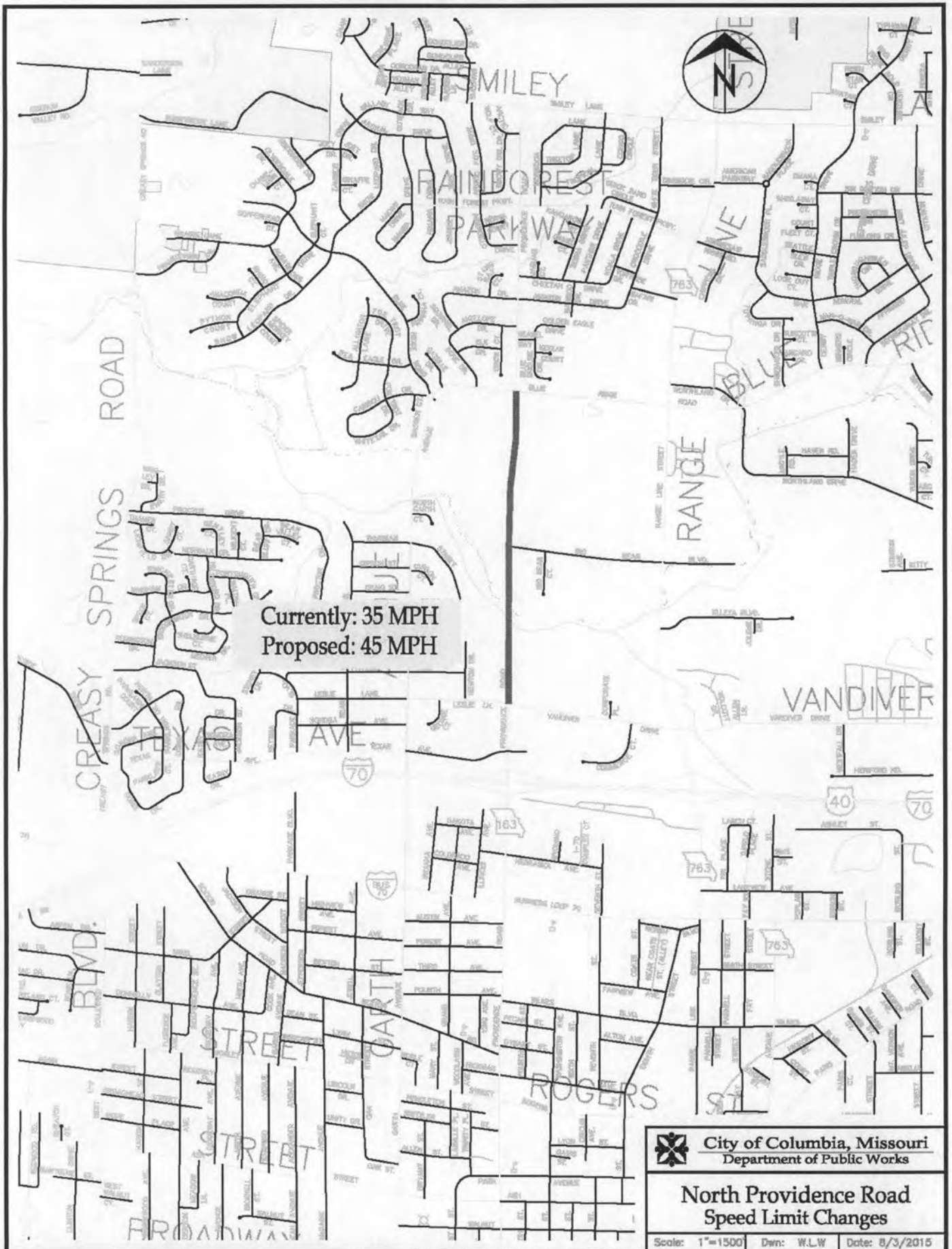
Sincerely,

David Silvester, P.E.
District Engineer
Missouri Department of Transportation



Our mission is to provide a world-class transportation experience that delights our customers and promotes a prosperous Missouri.

www.modot.org





Providence Rd Counter Placement Location Map

Nu-Metrics Traffic Analyzer Study
Computer Generated Summary Report
City: Columbia
Street: North Providence Road
Location: Between Vandiver and Blue Ridge

A study of vehicle traffic was conducted with HI-STAR unit number 6202. The study was done in the lane at North Providence Road in Columbia, MO in Boone county. The study began on Jul/14/15 at 12:00 and concluded on Jul/15/15 at 12:00, lasting a total of 24.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 25377 vehicles passed through the location with a peak volume of 628 on Jul/14/15 at [17:15-17:30] and a minimum volume of 5 on Jul/15/15 at [02:15-02:30]. The AADT count for this study was 25,377.

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 57.56% vehicles exceeding the posted speed of 35 MPH. The HI-STAR found 2.29 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 48.27 MPH.

< to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to >					
0	36	61	123	412	2460	7489	8043	3921	1371	443	160	105	67	239					

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. The number of Passenger Vehicles in the study was 15397 which represents 62 percent of the total classified vehicles. The number of Small Trucks in the study was 9206 which represents 37 percent of the total classified vehicles. The number of Large Trucks in the study was 207 which represents 1 percent of the total classified vehicles. The number of Tractor Trailers in the study was 120 which represents 0 percent of the total classified vehicles.

< to 17	18 to 23	24 to 27	28 to 31	32 to 37	38 to 43	44 to 61	62 to >												
15397	8321	530	165	190	207	99	21												

CHART 2

HEADWAY

During the peak traffic period, on Jul/14/15 at [17:15-17:30] the average headway between vehicles was 1.431 seconds. During the slowest traffic period, on Jul/15/15 at [02:15-02:30] the average headway between vehicles was 150 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 56.00 and 110.00 degrees F.

A POLICY RESOLUTION

establishing a policy on setting speed limits on residential streets in the City of Columbia.

WHEREAS, the Public Works Department studies speed limits and recommends speed limit ordinance changes to City Council on streets in the City of Columbia; and

WHEREAS, speed limits are set in Section 14-223 of the City Code and signed accordingly; and

WHEREAS, a consistent method of setting speed limits and placing signs will minimize speed and traffic on low volume residential streets and facilitate the safest possible traffic movement on collector and arterial streets; and

WHEREAS, inconsistent and artificially low speed limits on collector and arterial streets encourage high speed and cut-through traffic on residential streets.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. For the purpose of establishing speed limits, residential streets are defined as:

1. Streets with only residential dwellings accessing the road;
2. Streets with average daily traffic volumes less than 2,000; and
3. Streets that are not included as collectors or arterials in the Columbia Area Transportation Study Organization (CATSO) Roadway Plan.

SECTION 2. Speed limits on residential streets should be 25 miles per hour. If fifty percent (50%) of the residents on a street petition the City for a speed limit higher than 25 miles per hour, the City Council will consider raising the speed limit as high as the 85th percentile.

SECTION 3. All streets that have a speed limit higher than 25 miles per hour should have publicly funded speed limit signs.

SECTION 4. Residential streets with more than 1,000 vehicles per day should have at least one publicly funded enlarged speed limit sign with a yellow border. The sign will be placed to allow motorists to view the sign while entering a neighborhood. The border may have a message such as, "KID FRIENDLY" or, "SET THE PACE".

SECTION 5. Residential streets with more than 500 vehicles per day, but less than 1,000 vehicles per day, should have at least one publicly funded speed limit sign. Additional speed limit signs or enlarged speed limit signs with a yellow border may be installed by the Public Works Department if residents on the street are willing to reimburse the City for the cost of additional or upgraded signs.

SECTION 6. Residential streets with less than 500 vehicles will not have publicly funded speed limit signs (the speed limit on all residential streets is 25 miles per hour unless posted otherwise). Speed limit signs or enlarged speed limit signs with a yellow border may be installed by the Public Works Department if residents on the street are willing to reimburse the City for the cost of the signs.

SECTION 7. Streets with more than 2,000 vehicles per day should have speed limits based on an engineering study. A main component of an engineering speed study is the 85th percentile speed. Studies have documented that on major roadways, collisions are minimized when speed limits are set at the 85th percentile speed. Studies have also shown that artificially low speed limits cause motorists to leave major roadways and cut-through on residential streets. The posted speed limit should be in increments of 5 miles per hour. The speed limit may be 25 percent (25%) lower than the 85th percentile speed if residential driveways require motorists to back into the roadway.

ADOPTED this 17th day of August, 2009.