



COUNCIL DECISION REQUEST

SUBJECT: All-Way Stop at McLane Road and Payson Parkway

MEETING DATE: 7-31-14

SUBMITTED BY: LaRon Garrett, *Asst. Town Mgr*

SUBMITTAL TO AGENDA
APPROVED BY TOWN MANAGER

AMOUNT BUDGETED: \$86,000

L. Smith

EXPENDITURE REQUIRED: \$500

EXHIBITS (If Applicable, To Be Attached): Intersection Sketches, Intersection Evaluation

POSSIBLE MOTION

I move to direct staff to upgrade the McLane Road and Payson Parkway intersection to an All-Way STOP with the addition of two warning Stop Ahead signs and two regulatory STOP signs on McLane Road with All-Way plates on all four legs of the intersection.

SUMMARY OF THE BASIS FOR POSSIBLE MOTION:

Staff was requested to evaluate the intersection of McLane Road and Payson Parkway to determine if the existing traffic control consisting of a Two-Way Stop is adequate. There has also been a concern of excessive speed on McLane Road in this area. A copy of the evaluation is attached.

The evaluation indicated that it would be appropriate to upgrade this intersection to an All-Way STOP. The recommendation was base on the geometrics of the intersection the difficulty for stopped vehicles to see the approaching traffic.

The Payson Police Department supports making this intersection an All-Way STOP.

Staff recommends that the intersection of McLane Road and Payson Parkway be upgraded to an All-Way STOP including two warning Stop Ahead signs and All-Way plates on all four legs of the intersection.

PROS:

This upgrade will enhance the safety at the intersection of McLane Road and Payson Parkway.

CONS:

This upgrade will cause north and south bound traffic on McLane Road to make an additional stop.

FUNDING:

Acct: 202-5-3442-00-6015	Budget: \$86,000	Available: \$86,600	Expense: 500	Remaining: 86,100
Acct:	Budget:	Available:	Expense:	Remaining:
Acct:	Budget:	Available:	Expense:	Remaining:

FM: *Hope A. Crubit* Date: 7-22-14

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McLANE ROAD AND PAYSON PARKWAY INTERSECTION EVALUATION

Background

The intersection of McLane Road and Payson Parkway is a 4-Way intersection located southeast of Rumsey Park. Several concerns have been voiced about the safety of this intersection and the speed of traffic on McLane Road immediately south of this intersection. McLane Road is classified as an arterial route and Payson Parkway is classified as a collector route. McLane Road and Payson Parkway are public roadways while the fourth leg of the intersection going east is a private driveway serving a multi-family housing development known as Forest Hills Condominiums. The area around this intersection is developed to the south and east with residential development and the northwest quadrant is Rumsey Park. The intersection is currently controlled as a two-way Stop with a Stop sign on Payson Parkway and a Stop sign on the private drive exiting the Forest Hills development. On an average day 3,693 vehicles enter this intersection on McLane Road, 696 vehicles enter this intersection from Payson Parkway and 100 vehicles enter this intersection from the Forest Hills multi-family development. The number of vehicles entering this intersection during the peak traffic hour is 12 from the east, 67 from the west, 167 from the north, and 199 from the south.

The posted speed on McLane Road and Payson Parkway is 25 miles per hour. The 85th percentile speed on McLane Road is 32.0 miles per hour and on Payson Parkway 31.3 miles per hour. The 85th percentile speed is the speed at which 85% of the traffic is traveling at or below.

Evaluation

This intersection was reviewed for its suitability to be controlled as a 2-Way Stop or to be converted to an All-Way Stop. The following issues were identified:

1. **Intersection Geometry.** Ideally, the roads of a four way intersection are designed to intersect at right angles to each other. On lower volume roadways such as local streets it is common for the intersecting streets to deviate from the right angle intersection by up to ten degrees.

This intersection was constructed with a sharp acute angle in the southwest and northeast quadrants of the intersection. The acute angle varies from 90 degrees by almost 31 degrees. Approaching the intersection on Payson Parkway from the west the acute angle makes it difficult for drivers to turn far enough to the right to see traffic approaching on McLane Road from the south. Similarly, approaching the intersection from the multi-family site on the east the acute angle makes it difficult for drivers to turn far enough to the right to see traffic approaching on McLane Road from the north.

2. **Roadway Horizontal Alignment.** There is a horizontal curve on McLane Road that starts just north of the intersection and continues south approximately 200 feet from the intersection. Payson Parkway enters the intersection on the inside of this curve which creates difficulty for drivers to see approaching traffic from the south. The acute angle also compounds this issue with curve in making it hard for a driver to see approaching northbound traffic.

3. Roadway Vertical Alignment. This intersection is in a low area with a hill on the north and south of this intersection on McLane Road. These hills create additional visibility problems for traffic entering the intersection from Payson Parkway on the west and the Forest Hills Condominiums on the east.
4. Driver Visibility. Natural landscaping consisting of scrub oak and large ponderosa pine trees exist at the southwest corner of the intersection. The Street Department personnel periodically remove the scrub oak from the sight area but the large ponderosa trees are still an issue.
5. Future Growth. In the future the construction of Rumsey Drive between Wal-Mart and McLane Road will increase the traffic flow at this intersection making it even more critical to beware of oncoming traffic. Also, as the volume of traffic picks up it will make it increasingly more difficult to turn onto McLane Road from Payson Parkway and the Forest Hills Condominiums.

Conclusion

An upgrade in the traffic control at this intersection is not warranted based on the existing traffic counts alone. However, the Manual on Uniform Traffic Control Devices (MUTCD) Section 2B.07 Option 3 states that the following criteria may be considered in an intersection study: "Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop." Based on the above Option 3 it appears that the traffic control at the intersection of McLane Road and Payson Parkway could be upgraded to an All-Way Stop. This modification would address all of the concerns found with the geometric and site issues of this intersection and the adjacent roadways.

A second concern in this area is the speed of vehicles traveling on McLane Road. While the 85th percentile speed of 32 miles per hour exceeds the posted 25 miles per hour speed limit it is not overly excessive. Section 2B.05 of the MUTCD states; "STOP Signs should not be used for speed control." However, the installation of an All-Way STOP on McLane Road at the intersection of McLane Road and Payson Parkway will have a slowing affect on the McLane Road traffic.

This conclusion has been discussed with the Payson Police Chief and he supports the All-Way STOP.

Recommendation

Based on the above information, it is recommended that the intersection of McLane Road and Payson Parkway be upgraded from a 2-Way STOP to an All-Way STOP. In addition to the new STOP signs, new warning Stop Ahead signs should also be installed on McLane Road approaching the intersection.



SALE 1-120

FOREST HILLS
CONDOMINIUMS

5800

PRIVATE DRIVE

FOREST PARK

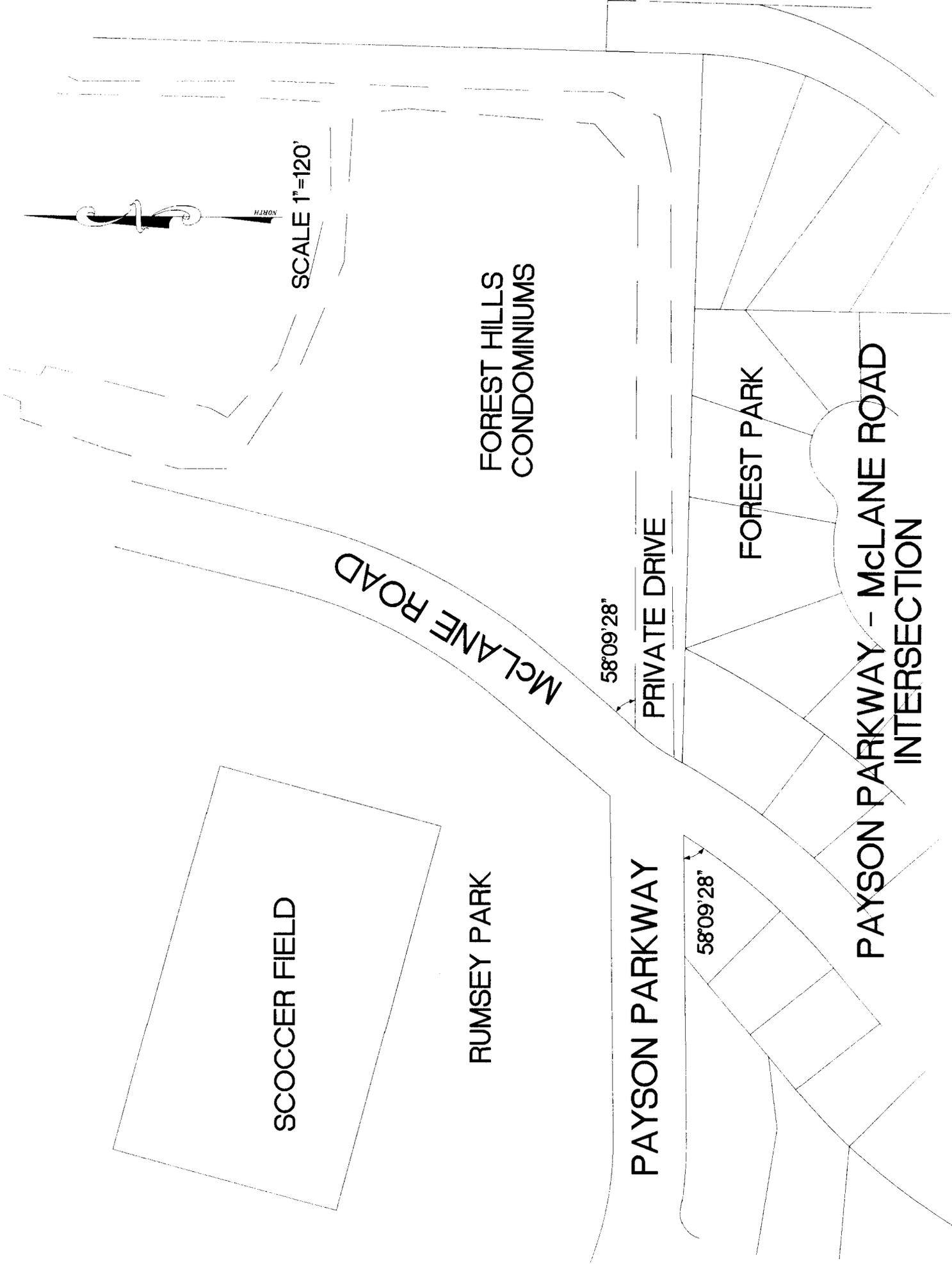
MCLANE ROAD

PAYSON PARK
IN SELECTION

09

HUMSER PARK

PAYSON PARKWAY



SCOCCER FIELD

RUMSEY PARK

FOREST HILLS
CONDOMINIUMS

FOREST PARK

PAYSON PARKWAY

MCLANE ROAD

PRIVATE DRIVE

PAYSON PARKWAY - McLANE ROAD
INTERSECTION



SCALE 1"=120'

58°09'28"

58°09'28"