



MEMORANDUM

DATE: FEBRUARY 1, 2019

TO: AMY NICHOLSON – CITY PLANNER

FROM: ROBERT SPRINKLE – CITY TRAFFIC ENGINEER

SUBJECT: DUTTON MEADOWS PHASE 2

In reviewing the proposed street layout for Dutton Meadow Phase 2, the layout is inconsistent with the plan lines identified in the General Plan. The General Plan identifies Northpoint Parkway as a regional arterial roadway that connects South Wright Road (the westerly boundary of the City) to Dutton Avenue. This roadway is expected to accommodate a higher level of traffic to move people and goods, and has been planned to distribute the community traffic burden.

The Roseland Specific Plan updated the General Plan to support key landuse and circulation design features. The alignment proposed in the Specific Plan supports and identifies some of these features:

- Enhance connectivity and promote multimodal transportation
- Improve traffic flow
- Enhance safety for all users along the roadway and at intersections
- Ease traffic congestion along Hearn Avenue

Below, Figure 1 shows the Roseland Specific Plan approved alignment, while Figure 2 shows the Developer's Proposed alignment.



Figure 1-Roseland Specific Plan



Figure 2 – Developer's Proposal

As proposed with the Dutton Meadow Phase 2 project, the street layout transforms the intended primary through movements at a new intersection of Northpoint Parkway and Dutton Meadow to 90-degree turning movements. When reviewing the volumes at this intersection, the majority of traffic would travel from southbound to eastbound, turning left and from westbound to northbound turning right. This layout is often less efficient than having the majority of the traffic flow being maintained straight through an intersection.

Additionally, this layout produces more potential conflicts with turning vehicles and pedestrian movements that typically operate at the same time. For example, a typical signal allows the adjacent pedestrian signal run during the same time a through movement is on. This works well when the through movement is heavy and the pedestrians walk adjacent to that traffic. When the majority of traffic turns right at an intersection, that pedestrian movement would need its own time to operate without any conflicting vehicles moving. Although this may seem minor, there is a school that would utilize this signal to allow pedestrians to walk to this school from the proposed development. This would generate a large pedestrian demand during the AM peak period impacting the overall signal operations.

There are other examples of 90-degree intersections that would operate better today if they were not offset. The intersections of Range Avenue/Bicentennial Way and Range Avenue/Piner Road is a prime example where the main flow of traffic flow navigates two 90-degree turns in order to continue in an east or westbound direction. If Bicentennial Way had been aligned with Piner Road directly, the intersection would operate much more efficiently than it does today.

For the residential community south of the proposed Northpoint Parkway that want to use Dutton Meadow to head in the general direction of the Hearn Interchange, the developer's proposed layout encourages vehicles to continue traveling north on Dutton Meadow and then turn east on Hearn Avenue. The traffic study appears to model this behavior and identifies the intersections do operate at an acceptable level. However, this would increase traffic congestion on the section of Hearn Avenue between intersections #1 and #2 in Figure 2 above. This would also contradict the fourth bullet above that states to ease traffic congestion on Hearn Avenue. Hearn Avenue is intended to remain a 3-lane facility with one travel lane in each direction and a center turn lane. There is not right of way available to widen Hearn Avenue without affecting existing homes. The traffic study states that any increase in volume on Hearn may cause it to become oversaturated and that people may use the "New Street" as an alternate if they experience delays on Hearn Avenue. In contrast, the Roseland Specific Plan alignment encourages vehicles to stay on the new portion of street that would connect from Northpoint Parkway to Dutton Avenue to the east and bypass the segment of Hearn Avenue between intersections #1 and #2 in Figure 1.

Additionally, the traffic study doesn't distribute the trips differently to show any potential benefit with the planned alignment compared to the proposed. For example, the Future PM + Project Planned scenario shows the identical volumes at the intersection of Dutton Avenue and Hearn Avenue to the Future PM + Project Proposed scenario. Further, the traffic study states that any increase in volume on Hearn Avenue may cause it to become oversaturated and that people may use the "Street A" as an alternate if they experience delays on Hearn Avenue.

While "Street A" provides an additional connection to Hearn Avenue east of Dutton Meadow, it is configured in a way that requires four 90-degree turns through a residential neighborhood, creating a less desirable and obvious route to travel to Hearn Avenue. As promoted in the Roseland Specific Plan, the function of A Street is designated as a collector/transitional street. It would be designed to encourage traffic south of Northpoint Parkway from Dutton Meadow, that desires to head to the Hearn Interchange, to travel in a through movement onto the new A Street and eventually terminating at Dutton Avenue. This General Plan alignment maintains separation between these more local trips from the regional cross-town trips that would be using Northpoint Parkway. As proposed, Street A will function like a neighborhood street.

As a result of less vehicles using Street A with the proposed alignment, these trips would be reassigned to the northern segment of Dutton Meadow. Dutton Meadow between Hearn Avenue and Northpoint Parkway would then be required to handle not only the planned regional traffic, but the traffic from the southern portion of Dutton Meadow. During the Roseland Specific Plan, this segment of road was reduced from a 4-lane facility to a 2-lane facility due to the planned alignment and circulation study. This would need to be re-evaluated to determine if the capacity of this segment of roadway could continue to operate effectively with 2 lanes. Currently, there have already been reports of congestion relating to school ingress during arrival and dismissal. Combining school, regional traffic and traffic from the southern portion of Dutton Meadow could require additional capacity that was previously not considered.