BACKGROUND:

Calabasas has always been at the forefront of incorporating the most current traffic safety improvements into its transportation network. The approved shopping complex project at the northwest corner of the intersection of Las Virgenes Rd. with Thousand Oaks Blvd. necessitates significant safety improvements at that intersection to accommodate the increase in traffic that the development will generate.

At intersections that are along collector roadways and serve only moderate traffic volumes, roundabouts are a cost-effective and efficient solution to accommodate and traffic volume increases that make a stop-sign controlled operation obsolete. The newly approved development underway near this intersection will produce enough new traffic to a point where a roundabout should be considered as a needed and attractive improvement.

Roundabouts are safe and efficient, but they are not the ideal solution for every intersection. Several factors must be considered when deciding to build a roundabout at a specific intersection. Staff considers these characteristics when determining the best solution for a particular intersection:

- **Accident history** – data about the number of accidents, type of crash, speeds, and other contributing factors are analyzed.
- **Intersection operation** – the level of current and projected travel delay being experienced, and backups on each leg of the intersection.
• **Types of vehicles using the intersection** – we look at the different kinds of vehicles that use the intersection. This is especially important for intersections frequently used by large trucks.

• **Cost** – this includes the societal cost of accidents, right-of-way acquisition and long-term maintenance needs.

This intersection was formally evaluated near the beginning of 2006 at a TTC meeting and workshop conducted by Calabasas staff. In the report and workshop conceptual improvements for the intersection were introduced. At the time, there were no potential plans to develop the property at the northwest corner of the intersection. However, several short term intersection modifications were proposed and eventually implemented to improve the intersections operation characteristics. The heavy school traffic that goes through the intersection daily necessitated the need to simplify the intersection’s geometry, reassign individual lane movements and provide a yield controlled exclusive lane for drivers travelling north on Las Virgenes Rd. and turning right onto Thousand Oaks Blvd. All of these improvements enhanced the overall flow and reduced delay at the intersection by providing more opportunities for simultaneous movements on each leg.

In addition, long term improvements of the intersection were discussed in anticipation of the development of the property at northwest corner of the intersection. Several alternatives were discussed but a large landscaped roundabout was the favored alternative with 64% of the workshop participants preferring a roundabout rather than a traffic signal at the preferred long-term solution.

Now that the construction of a new commercial center consisting of 25,820 square-feet of retail space and 35,644 square-feet of office space has been approved for the subject property, Staff has determined that another community workshop needs to be conducted to formalize the long term intersection improvements that need to complete before the new office/retail space is complete. Based on the findings of the 2006 workshop that a roundabout is the preferred alternative, a roundabout similar to the one previous installed at the intersection of Parkway Calabasas and Paseo Primario will be presented with an additional emphasis on providing the workshop participants with education of the benefits and operation of modern roundabouts with a chance to provide input and information that they feel is pertinent.

**DISCUSSION:**
The installation of a roundabout at an intersection typically generates the following benefits.
**Accident Reduction**

Studies have shown that roundabouts are safer than traditional stop sign or signal-controlled intersections.

Roundabouts reduced injury crashes by 75 percent at intersections where stop signs or signals were previously used for traffic control, according to a study by the Insurance Institute for Highway Safety (IIHS). Studies by the IIHS and Federal Highway Administration have shown that roundabouts typically achieve accident reductions in all the standard types of accident groups. Table 1 graphically illustrates the study’s findings.

**Table 1 – Accident Rate Reductions After Roundabouts Are Installed**

There are several reasons why roundabouts help reduce the likelihood and severity of collisions:
- **Low travel speeds** – Drivers must slow down and yield to traffic before entering a roundabout. Speeds in the roundabout are typically between 15 and 20 miles per hour. The few collisions that occur in roundabouts are typically minor and cause few injuries since they occur at such low speeds.

- **No light to beat** – Roundabouts are designed to promote a continuous, circular flow of traffic. Drivers need only yield to traffic before entering a roundabout; if there is no traffic in the roundabout, drivers are not required to stop. Because traffic is constantly flowing through the intersection, drivers don’t have the incentive to speed up to try and "beat the light," like they might at a traditional intersection.

- **One-way travel** – Roads entering a roundabout are gently curved to direct drivers into the intersection and help them travel counterclockwise around the roundabout. The curved roads and one-way travel around the roundabout eliminate the possibility for T-bone and head-on collisions.

**Reduce delay, improve traffic flow**

Contrary to many peoples’ perceptions, roundabouts actually move traffic through an intersection more quickly, and with less congestion on approaching roads. Roundabouts promote a continuous flow of traffic. Unlike intersections with traffic signals, drivers don’t have to wait for a green light at a roundabout to get through the intersection. Traffic is not required to stop – only yield – so the intersection can handle more traffic in the same amount of time.

Studies by Kansas State University measured traffic flow at intersections before and after conversion to roundabouts. In each case, installing a roundabout led to a 20 percent reduction in delays. Additional studies by the IIHS of intersections in three states, including Washington, found that roundabouts contributed to an 89 percent reduction in delays and 56 percent reduction in vehicle stops.
Less expensive

The cost difference between building a roundabout and a traffic signal is comparable. Where long-term costs are considered, roundabouts eliminate hardware, maintenance and electrical costs associated with traffic signals, which can cost between $5000 and $10,000 per year.

Roundabouts are also more effective during power outages. Unlike traditional signalized intersections, which must be treated as a four-way stop or require police to direct traffic, roundabouts continue to work like normal.

Less space

A roundabout may need more property within the actual intersection, but often take up less space on the streets approaching the roundabout. Because roundabouts can handle greater volumes of traffic more efficiently than signals, where drivers may need to line up to wait for a green light, roundabouts usually require fewer lanes approaching the intersection.

Once a roundabout is installed it important to understand how they operate. Drivers in the United States, particularly those in the west, have had little exposure to them and often do not understand the appropriate rules to follow when maneuvering their vehicles within them.

The following videos provide an overview of the benefits and operation of roundabouts. They are part of a five part series that the Washington State Department of Transportation prepared as part of their ongoing education program that supports their public participation component of a project when a roundabout is involved. The five parts are divided in this fashion:

- Roundabouts: What they are and what they are not
- Roundabouts: How do I drive a roundabout?
- Roundabouts: Pedestrians and cyclists
- Roundabouts: Safety benefits
- Roundabouts: What does this mean for me?

These videos will also be shown at the public workshop.

FISCAL IMPACT / SOURCE OF FUNDING:

There is no direct fiscal impact at this time.
REQUESTED ACTION:

Staff recommends that the Traffic and Transportation Commission support the upcoming workshop scheduled at the Calabasas Community Center on March 24th at 7:00 PM. and attend as representatives for the City.

ATTACHMENTS:

None.