

Section IV

CONCEPTUAL KINGS BEACH NEIGHBORHOOD TRAFFIC CALMING PLAN

This plan is based upon the following considerations and concepts:

- ♦ Uninterrupted street length is one factor to consider when considering strategies to control overall vehicle travel speeds on residential streets. In general, speed control measures placed 350 to 750 feet from another measure or stop control have been found to offer consistent speed reduction. In Kings Beach, this translates to providing a measure roughly every two blocks in the north-south direction and every block in the east-west direction. Existing roadway lengths exceeding this range consist of the following:

Speckled Ave.	SR 267 to Bear Street	1,600 feet
Speckled Ave.	Coon Street to Chipmunk Street	2,100 feet
Cut Throat Ave.	Coon Street to Chipmunk Street	1,500 feet
Cut Throat Ave.	Wolf Street to Bear Street	1,200 feet
Dolly Varden Ave.	SR 267 to Bear Street	1,600 feet
Dolly Varden Ave.	Bear Street to Fox Street	1,400 feet
Loch Levon Ave.	Coon Street to eastern terminus	1,000 feet
Golden Avenue	Bear Street to Fox Street	1,400 feet
Brockway Vista Ave.	Coon Street to Chipmunk Street	1,800 feet
Deer Street	Steelhead Ave. to SR 28	1,000 feet
Bear Street	Speckled Ave. to Loch Levon Ave.	900 feet
Bear Street	Loch Levon Street to SR 28	1,500 feet
Coon Street	Golden Ave. to Brook Ave.	900 feet
Coon Street	Dolly Varden Ave. to Golden Ave.	900 feet
Fox Street	Loch Levon Ave. to SR 28	2,100 feet
Chipmunk Street	Salmon Street to SR 28	900 feet
Beaver Street	Cut Throat Ave. to SR 28	3,500 feet

- ♦ As documented in the *Kings Beach Urban Improvement Project Traffic Report*, cut through traffic is expected to be concentrated along Coon Street, Chipmunk Street, and Fox Street in the north-south direction and along Speckled Avenue and Dolly Varden Avenue in the east-west direction. While all through streets could potentially see some diverted traffic, traffic calming strategies should focus on these streets.
- ♦ Many of the roadway grades in the northeastern portion of the grid area exceed the 4 percent maximum recommended for use of traffic circles, indicating that other measures would be required in this area. It should be noted that the grades shown in Figure 5 are overall (or average) grades between adjacent intersections, while the actual slope at intersections or potential device locations may be considerably different.

Draft Proposed Plan

Figure 8 presents a draft of a proposed Neighborhood Traffic Control Plan for the Kings Beach residential streets. This plan incorporates the following elements:

- ♦ Each street entering the “grid” has some form of traffic control (either a 2-lane choker or a traffic circle) to provide all drivers with a physical indication that they are entering a residential neighborhood.
 - Each north-south street has a traffic circle roughly two blocks north of SR 28, just north of the commercial land uses. These circles could either be installed seasonally, or permanent.
 - Gateway constrictions (Two-lane chokers) are installed along Speckled Avenue and Dolly Varden Avenue just east of SR 267 (at or near Griff Creek) and along Bear Street just north of SR 267 to reduce traffic speeds and provide a sense of entry to the neighborhood. While these streets are already relatively narrow at the entrance locations (limiting the amount of narrowing that could occur, these chokers should be signed and landscaped (including vertical elements) to reduce the attractiveness of these streets as potential diversion routes to drivers waiting in traffic queues on the state highways.

Also at these locations, speed limit signs would be installed and speed legends painted on the pavement in the inbound direction.

- ♦ Where grades are too steep for installation of traffic circles and where it is desirable to attain consistent spacing between traffic controls, speed humps or raised crosswalks are provided (where feasible given existing driveway and cross-street locations). These devices could either be installed seasonally, or permanently.
- ♦ The sole raised crosswalk along Dolly Varden Avenue between Deer Street and Wolf Street, is the location of an existing striped crosswalk providing access to the Kings Beach Elementary School. As there is no sidewalk on either side of Dolly Varden Avenue, this would require ramps between the raised crosswalk and existing grade on either side. To reinforce slower speeds along the section adjacent to the school and playfields, a speed hump is also provided along Dolly Varden Avenue west of Deer Street.
- ♦ On Coon Street at Loch Levon Avenue, the existing Stop signs facing Loch Levon are relocated to stop traffic on Coon Street, in order avoid a three-block-long segment on Coon Street without traffic controls and as both traffic circles and speed humps cannot be installed along this section of Coon Street.
- ♦ A speed feedback sign is provided facing eastbound traffic on Speckled Avenue between Wolf and Deer Streets to address the existing speeding observed along this roadway. (A speed feedback sign is not recommended along Dolly Varden Avenue as there is no current indication of a speeding issue, it would not be consistent with the residential character of the street, and as the existing configuration of the roadway as well as the planned traffic control devices would tend to control speeds.)
- ♦ A five-foot-wide pedestrian path/sidewalk is provided along one side of Coon Street, from SR 28 to Dolly Varden Avenue. This is intended to provide all Kings Beach residents with at least one path by which to use the relatively low-volume east-west residential streets to

FIGURE 8
Conceptual Kings Beach Neighborhood Traffic Calming Plan



access a north-south sidewalk to the commercial uses along SR 28. Coon Street was selected as the appropriate first street to be provided with a full sidewalk to Dolly Varden, due to the following:

- Relatively high existing traffic volumes
- A central location to the overall grid
- Provides the most direct access to the post office
- Directly accesses a controlled (roundabout) crossing of SR 28, as well as the State Recreation Area to the south

Identifying the appropriate side of Coon Street on which to provide this facility would require detailed engineering evaluation, though it's worth noting that there are less existing driveways along the west side. In places, this facility may be directly behind a curb (i.e., a sidewalk) while in other places it may be appropriate to provide a separate pedestrian path in order to minimize construction impacts.

- ♦ A pedestrian path/sidewalk is also provided along one side of the southern portion of Fox Street between SR 28 and Rainbow Avenue, to serve this relatively dense residential area.
- ♦ Although not affected by cut through traffic, a five-foot wide pedestrian path/sidewalk would be desirable along the west side of Secline Street (and around the corner with Steelhead Avenue) from SR 28 to the existing sidewalk by the Kings Beach Elementary School. This is intended to provide a separated pedestrian path between the school and SR 28 as well as to and from the Placer County Library on Secline Street.
- ♦ A five foot wide pedestrian path/sidewalk is also provided along one side of Steelhead Avenue between Deer Street and Fox Street. This is intended to provide east/west pedestrian connectivity between the school and the eastern portion of the community and also providing a pedestrian path to the path along Coon Street.

An option to the pedestrian path/sidewalk could be to convert Loch Levon and/or Steelhead Avenues to one-way streets between Deer and Fox Streets, using the remaining pavement width would be used for a pedestrian path. These streets would be striped for a 10-foot vehicle lane, a 2-foot separation area (potentially textured), and an 8-foot pedestrian pathway. Cyclists would be encouraged to continue to use the travel lane. An advantage would be that the two-way pedestrian path could be easily plowed as part of regular winter snow removal operations, providing additional safety for pedestrians. The disadvantages would be that some current parking would be eliminated, a substantial amount of regulatory signage would be necessary for the one-way street designation, and there would be some modest increase in traffic volumes on the adjacent streets (such as Golden Avenue and Dolly Varden Avenue) as drivers circle the block to enter and leave their homes. It can also be expected that bicyclists may ride against traffic or within the pedestrian path if it provides a shorter route instead of following the one-way road designation. As these converted blocks only serve residential uses, additional traffic volumes on adjacent streets would be low.

- ♦ Edge line striping (“fog lines”) is recommended along Fox Street, Coon Street, Speckled Avenue, and Dolly Varden Avenue, designating two ten-foot travel lanes along Fox, Coon, and Dolly Varden, and two twelve-foot travel lanes along Speckled Avenue (with the wider lane width reflecting the higher proportion of truck traffic serving the light industrial uses along Speckled Avenue).
- ♦ All striped crosswalks in the grid (such as near the Kings Beach Elementary School) should be repainted.
- ♦ Provide specialized paving (rubberized asphalt) on portions of Coon Street, Dolly Varden Avenue, and Fox Street. Rubberized asphalt has proven to reduce traffic noise by roughly 4 to 5 decibels, which is described by noise experts as “clearly noticeable.”
- ♦ Pursue increased traffic enforcement focusing on those peak traffic periods when cut through traffic would be an issue.

Other sidewalk segments would also be provided as part of the overall Kings Beach Commercial Core Improvement Project along the southernmost portions of Deer Street and Bear Street and along Brook Avenue from Bear Street to Coon Street, as well as along SR 28. In addition, as new parking lots are developed as part of the overall Project, additional sidewalk sections will be installed to serve them.

It should be noted that Figure 8 represents a draft traffic calming plan, and that not all of these elements would be necessary initially. (This is particularly true as the traffic analyses indicate that periods of traffic diversion would be relatively limited in the near term). A reasonable first phase, given current traffic conditions and those expected in the near term with the changes to SR 28, consists of the following:

- ♦ “Entry treatments” on each roadway entering the residential area:
 - Gateway Treatment on Speckled Avenue and Dolly Varden Avenue just east of SR 267.
 - Traffic circles at Secline/Golden, Deer/Rainbow, Bear/Rainbow, Coon/Trout, Fox/Brook and Minnow/Chipmunk.
- ♦ The speed feedback sign on Speckled Avenue.
- ♦ Edge line striping along Fox Street, Coon Street, Speckled Avenue, and Dolly Varden Avenue.
- ♦ Sidewalks along Coon Street and Secline Street.
- ♦ A series of two speed humps on Brockway Vista Avenue.

Although other improvements (such as along Beaver Street) could be implemented as monitoring data of volumes and speeds warrant them, the County proposes to construct all of the improvements (phase 1 and 2) as part of the project. The County proposes to construct phase 1 improvements the first year, monitor and with public input refine the phase 2 improvements in the second year and complete the phase 2 improvements in year 3. This is consistent with the KBCCIP schedule which will require two and perhaps up to three construction seasons to complete.

Other Plan Elements

There are other, non-physical elements of an overall Traffic Calming Plan that are recommended:

- ♦ **Community-Based Program Development and Refinement** – The *Placer County Neighborhood Traffic Management Program* provides a detailed process by which specific, final plans should be developed. This includes collection of additional data, notification of affected residents, neighborhood meetings and review, and consultation with affected public agencies.
- ♦ **Ongoing Monitoring** – Traffic patterns in the grid streets can be expected to change over time, due to factors such as growth in highway traffic volumes and changes in driver response to congestion along the highway. While monitoring is an important element of any traffic management plan, it is particularly important in Kings Beach due to these external factors and the numerous potential through travel routes. Periodically monitoring of traffic conditions should be conducted, including the following:
 - Traffic volume counts and speed survey data at one or more locations on each through street.
 - A review of the County’s database system (Crossroads) for traffic accident data.
 - A review of traffic data prior to and after implementation and comparison against project goals to identify further refinements to the program.

Cost Considerations

A planning-level cost estimate of the construction costs for the conceptual plan is shown in Table 1. As indicated, straight construction costs are estimated to total \$1,120,500. Including an additional 30 percent for design, engineering, permitting and construction management (on all elements other than the asphalt pavement that would occur as part of regular pavement maintenance), the total estimated cost of implementing the plan is estimated to equal \$1,334,300.

The ongoing costs associated with the program will depend upon whether the humps and circles are permanent or seasonal (with the seasonal option generating higher costs). A reasonable annual cost for monitoring and maintenance is \$20,000.

Funding for the program is planned by Placer County to be provided as follows:

- ♦ Capital funding would be incorporated into the overall KBCCIP project budget. The County’s Redevelopment Agency has committed an additional \$1M to fund this traffic calming effort as part of the KBCCIP.
- ♦ Most of the cost associated with new asphalt paving would be borne by Placer County’s ongoing countywide roadway resurfacing program.

TABLE 1: Estimated Construction Costs*Kings Beach Neighborhood Traffic Calming Program*

Element	Number		Unit Cost	Total Cost
Traffic Circle	9	Each	\$30,000	\$270,000
Speed Hump	12	Each	\$3,000	\$36,000
Raised Crosswalk	1	Each	\$8,000	\$8,000
Gateway / Choker	3	Each	\$8,000	\$24,000
Speed Feedback Sign	1	Each	\$5,000	\$5,000
Relocate Stop Sign	2	Each	\$100	\$200
Speed Limit Sign	9	Each	\$200	\$1,800
Coon St. Sidewalk / Pedestrian Path (1)	2,020	Linear Ft	\$60	\$121,200
Fox St. Sidewalk / Pedestrian Path (1)	1,130	Linear Ft	\$60	\$67,800
Steelhead Avenue Sidewalk / Pedestrian Path (1)	2,100	Linear Ft	\$60	\$126,000
Secline St. Sidewalk / Pedestrian Path (1)	880	Linear Ft	\$60	\$52,800
Rubberized Asphalt Paving (2)	181,200	Square Ft	\$2.25	\$407,700
<i>Subtotal: Construction Cost</i>				<i>\$1,120,500</i>
Design & Project Management	30%			\$213,800
Total Cost				\$1,334,300

Note 1: Drainage costs associated with pedestrian sidewalk/path construction included in overall project costs.

Note 2: Design and Project Management costs not assigned to asphalt paving, as this work would be conducted as part of regular pavement maintenance.

- ♦ If selected through a competitive selection process, a portion of the capital construction costs could be funded through the state and federal Safe Routes to Schools programs. The state program, originally established in 1999, currently provides \$52M per year in funding statewide for projects enhancing bicycle and pedestrian access to schools. A similar federal program, established under the federal surface transportation act, provides on the order of \$46M across California. The sidewalks along Secline Street, and the bicycle/pedestrian facilities along Steelhead Avenue and Loch Levon Avenue would both be eligible (on a competitive basis, statewide) for possible funding.
- ♦ The relatively low level of ongoing operational funding would be incorporated into Placer County's Public Works maintenance budget.