This report was prepared for the City of Los Altos, California, by Walkable Communities, Inc. For background information on details found in this report contact Dan Burden, Director. Walkable Communities, Inc. provides more information at website: www.walkable.org

Disclaimer
The contents of this report represent the knowledge, experience, and expertise of the citizens and authors in providing ideas and concepts to improve safety, access, mobility and livability through streetscaping, transit, walking, bicycling enhancements and other traffic management strategies. This report does not constitute a standard, specification, or regulation, and is not intended to be used as a basis for establishing civil liability. The decision to use any particular measure should be made on the basis of engineering studies of the location. This report is not a substitute for sound engineering judgment. Adherence to the principles found in this report can lead to an overall improvement in neighborhood and community livability and traffic.
# Table of Contents

**Community Concerns**  
A review of the community visioning process and the concerns raised through a Visual Preference Survey, Focus Groups, Community Meetings, Walking Audits, and Design Tables.

**Street Design Guidelines**  
A description of palliative street elements that should be used to enhance the walkability and livability of the community, while preserving its rustic character.

**Transport System Recommendations**  
Specific recommendations that should be considered for inclusion in the Transportation section of the General Plan.

**Sample Projects**  
Nine specific projects that show how enhancements could be implemented.

**Recommended Funding Sources**  
An overview of Federal, State and Local funds that might be available to assist implementation.
Community Concerns

Community concerns were elicited through a series of workshops starting on Thursday evening. After some introductory remarks, Dan Burden conducted a Visual Priorities Survey. This survey appears in the appendix of this report.

Six focus groups were conducted on Friday, with representatives from City Staff, City Officials, Public Services and Emergency Responders, Schools, Community and Civic Groups, and Business and Real Estate leaders. The input received was invaluable in steering the consultant team towards the most crucial concerns of the community. Many important questions were raised. These included:

- How can the community retain the rural/rustic quality of Los Altos?
- Should more sidewalks be constructed? If so, where?
- How can the pluses and minuses of various options be considered?
- Can unrealistic expectations be avoided?
- How can transportation, parking, walkability, and affordable housing be incorporated into the General Plan?
- How can the streets made safe for children to walk to school?
- How can traffic be reduced, slowed, and made safer?
- Where can downtown workers find all-day parking?

Los Altos
Community Values:
- Quiet/Tranquil
- Friendly
- Safety
- Rural/Small
- Family
- Trees
- Beauty

The photo below shows one of the focus groups. The other photo captures the group effort to define community values.
At the Friday evening Community Values session, residents were polled regarding the values they hold for Los Altos. Of the many possibilities that were volunteered, seven were the most popular. “Quiet/tranquil,” “Friendly,” and “Safety” ranked the highest. These were followed by “Rural/Small,” “Family/youth/elderly,” “Trees,” and “Beauty.” The community values expressed helped shape the recommendations in this report.

After the exercise on values was a prioritizing of various possible improvements that fell under a number of categories. Four suggestions for Collector streets were most popular: making collectors not wide and straight, growing of tree canopies, enforcement/conversion to 25 m.p.h. speed limit, and the use of environmentally friendly buses. Traffic calming was also a priority, in particular the use of such passive traffic calming techniques as the narrowing of lanes and landscaping. The concern for safety emerged in the desire for more sidewalks near schools, safer crosswalks, and better visibility at intersections. Desirable trip reduction techniques included bringing back school buses, regional trail links, and neighborhood links connecting cul de sacs. Citizens wanted to retain rural character by planting more, bigger trees and by changing the environment to allow children to safely walk to school.

On Saturday the consultant team lead two groups on Walking Audits. One group walked from City Hall around the downtown and into an adjoining neighborhood. The other group walked in the vicinity of Oak School. That afternoon, the consultant team set up a number of Design Tables. The participants were invited to indicate on maps where they would like sidewalks, bicycle lanes, and connections to be located. They also marked intersections that need improvements and indicated the streets most in need of traffic calming projects.

Intersections suggested for improvement included:
- San Antonio and West Edith
- San Antonio and Whitney/Pepper
- El Monte and Springer
- El Monte and Hawthorne
- El Monte and Foothill
- Foothill, Springer, Magdalena
- Foothill, Fremont, Mira Monte (at Loyola Corners), Loyola Corners (bridge)
- Foothill and Arboretum
- Rancho area including Barry and Springer
Participants suggested a number of sites to consider for traffic calming measures, including:
- Routes to schools and commuter traffic cut-through areas
- W. Portola Avenue near Egan Elementary School
- Los Altos Avenue near Santa Rita Elementary
- Los Altos Avenue near Toyon
- University Avenue from Main Street to Anita
- Almond near Los Altos High School
- Almond near Almond Elementary
- Higgins Avenue
- El Monte at Almond
- El Monte at Clark
- El Monte at Rinconada Court
- Hawthorne from Eleanor to El Monte
- El Monte and Hawthorne
- Clark, El Monte to Cuesta
- Springer at Cuesta
- Covington, from Springer to Miramonte
- Covington at Miramonte
- Covington near Blach Elementary
- Barry near Loyola Elementary
- Grant and Oak
- Oak Avenue at Oak Elementary
- Truman between Oak and Freemont
- Newcastle between Freemont and Grant Road
- Grant near St. Simon’s School
- St. Joseph Avenue near Mt. Claire School
- Fallen Leaf from Freemont to Homestead Rd
- Homestead near Foothill

The photo at right is Hawthorne Avenue, looking east from Gordon. The photo below is an aerial view of Hawthorne (running across the center from left to right) and El Monte (running diagonally from the lower left.) Both Hawthorne and El Monte were identified as roadways needing attention.
Sidewalk Priorities:
- Around schools
- Commercial Areas
- Along collector corridors with heavy traffic

Suggested sidewalk priorities were:
- Around schools: provide sidewalks on the main streets leading to all of them.
- Busiest streets expanded to create a system of networked sidewalks.
- Along main roads: those walking for transportation need the same corridors cars choose, so sidewalks should be installed on these streets first.
- Around commercial areas.
- Pedestrian paths instead of sidewalks: not necessarily concrete.
- Sidewalks behind Blach, in front on Covington.
- Sidewalks on Los Altos Avenue in front of doctor’s offices.
- All streets with pedestrian paths.

Neighborhood Links:
- To schools
- To cul-de-sacs
- To adjacent towns

Participants proposed improving existing neighborhood links and developing new ones:
- Link across Blach School to get around the problem of not being able to go on school grounds during the day.
- Connectors to tie Covington school in at cul de sacs.
- Across the creek, Hetch Hetchy right of way for path connection.
- At the end of Border, people crawl out through a hole in the fence, walk along the shoulder of Foothill expressway, and cross the church parking lot where Border terminates to access the signalized crossing at Foothill, Springer, and Magdalena.

Bicycling Priorities:
- Connect schools
- Connect downtown
- Along Permanente Creek

A number of suggestions were made to improve bicycling:
- More bike racks downtown.
- Include a point where the Hetch Hetchy bike path could be extended.
- Provide routes to get downtown.
- Need a way to connect the parks for walking and bicycling.
- The underpass at Loyola Corners on the expressway needs improvement. If this is done, the bikeway could be extended to complete a regional link for a bike route.
- Focus on interconnecting schools including the new school to open next year. Include West Valley Elementary; try to use bridge over creek to connect to the Sunnyvale bike path.
- Try to identify the Los Altos connection from the Stevens Creek trail.
- Bike route connecting with Cupertino’s plan on streets to Truman High School.
- Bike trail along Permanente Creek.
- Added sidewalks in support of schools including key intersections that might lead to a school.
The consultant team incorporated these targeted areas into the general recommendations and selected sample projects that would include some of them. On Monday evening, the Final Presentation was held for the City Council and public. Dan Burden and Patrick Siegman presented the recommendations and sample projects.

Everyone agrees it's vital to preserve the rustic atmosphere of Los Altos. Big, old oaks, sometimes in the middle of the road, are an icon for the region's preferred residential neighborhoods. The city has a tremendous opportunity to enhance its livability and viability within the context of its beautiful natural setting.
Street Design Guidelines

The guidelines presented in this section reflect the recommendations presented in the charrette. Citizens described a safe, pleasant, walkable environment that preserves the unique character of Los Altos, encourages walking and bicycling for transportation, and promotes use of the bus system.

Street elements impacting walkability include: sidewalks, planter strips, parking, bike lanes, travel lanes, trees, housing types and location and medians. Poorly conceived, constructed and maintained streets degrade neighborhoods and communities and lessen their walkability. Low levels of walkability lead to high levels of auto dependency and traffic where we live, work and play. Well conceived, constructed and maintained streets heighten our sense of pride, pleasure and responsibility for our towns, leading to their ultimate success as places for investment, work, festivals, fun, and association.

Sidewalks

Many Los Altos neighborhoods were built without sidewalks. In most communities, sidewalks are warranted where volumes exceed 500 or more vehicles per day or where speeds exceed 20 m.p.h.. Short, well designed streets with speeds of 20 m.p.h. or less and 300 or fewer cars per day may not require sidewalks. In areas where faster traffic or higher volumes exist, sidewalks are needed. Provision of sidewalks on both sides of streets help reduce unnecessary street crossing.
Some residents fear that provision of sidewalks will damage the rural character of their neighborhoods. It is possible, however, to design sidewalks that preserve and enhance the neighborhood, plus provide the added benefit of promoting association, which builds community.

**Width:** Sidewalk widths can vary. The minimum width for a sidewalk is 5 feet. This is the same width needed for two people to sit together comfortably in a car. Six feet is required when walkways are attached to curbs. Lesser width creates discomfort for two people walking side-by-side. It may be desirable to increase sidewalk width to a minimum of 8 feet within 1/8 mile of schools, significant parks, commercial areas, prominent transit locations, medical buildings and other popular gathering or walking places. Shopping districts require sidewalk widths of 8-16 feet or more for greater pedestrian volumes.

**Location:** Sidewalks should be buffered from motorized traffic in most locations. Buffers are created through planter strips, on-street parking, bike lanes, or combination of these tools. Monolithic sidewalks, in which the curb and sidewalk are combined, are uncomfortable for people because there is inadequate separation from the travel lane of the roadway.

**Materials:** Sidewalks materials can vary. Concrete is the most popular, often lasting 50-80 years with light maintenance. Concrete can also be colored, patterned, or otherwise textured in ways that do not negatively impact wheelchairs and other uses. Bricks, paver stones and asphalt are three other popular materials. Each of these materials can last decades, if properly placed, designed and treated. Materials can be varied to create a unique personality or character for a neighborhood.

During the charrette, considerable time was spent discussing alternate walkway surface treatments. There was agreement that walkways did not necessarily have to be concrete. Asphalt might be an alternate treatment. The community needs to have a clear understanding of potential treatments, including the appearance, installation cost, maintenance cost, life expectancy, and suitability for diverse users, including considerations required under the American with Disabilities Act (ADA).
Edges, Ledges, Walls
Sidewalks need well defined edges on both sides. Typically property edges are grassy areas, but can also be retaining walls, lines of shrubs, low, transparent fences, or other physical elements. Street-side edges can also be grass, or full planter strips. In urban or retail areas, buffers are needed between sidewalks and fronts of buildings. The width of these spaces should be minimum of two feet, which allows space for window shoppers, opening doors and sidewalk enhancements such as flower planters and retail displays.

Planter Strips
Planter strips bring streets to life with the beauty of landscaping and space for attractive street furniture, lighting, and other amenities. Ideally, planter strips are mirrored pairs, creating balance and harmony to streetscapes. Planter strips provide places outside sidewalk space for traffic signs, fire hydrants, utility boxes and other operational elements of streets. Planter strips provide sufficient setback of sidewalks to help with ADA issues at crossing points. Planter strips also can help assure adequate sight triangles at intersections and driveways.

Lighting
People walking along streets seek strong linear lines during the day and steady flood of low angle light at night. Lighting needs to serve both motorists and walkers. Street lamps enhance many themes, conveying moods reflective of modern downtowns, historic neighborhoods, revitalized industrial areas, mountain or beach communities.
Sitting Places
Frequent opportunities for walkers to sit and rest should be provided. Older populations need sitting places arranged even closer. Sitting places can include both formal areas, such as benches, and informal areas, such as pleasant ledges, sills and other multiuse street elements. Sitting places should include lighting, trash receptacles, shade and other amenities.

Trees
In planter strips or tree wells outside the walking path are often spaced 30-50 feet apart. They are set back 4-6 feet from street edges. Non-mountable curbs are needed in most urban settings and are essential when trees, utilities or other fixed objects are used in planter strips. Healthy trees require wide and long planter strips. Six-foot wide planter strips accommodates most tree species and allow for landmark trees.

Other Landscaping
Shrubs and other plant materials create seasonal or year-round color, edging and attraction to walkways. Native, drought resistant or xeriscape species should be emphasized to minimize maintenance costs and issues. In many locations, especially corners and driveways, low-growth groundcover (2.5 feet or less) is preferred. Perennials add splashes of color and enhance many small areas and gateways.

Utilities
Many communities and most downtowns now choose to place utilities underground in order to allow full canopies, minimize power disruption from storms, and to increase the visual detail of streets. Above ground utilities are most often set in planter strips, especially if sidewalks are placed at the back of public right-of-ways. Many issues surround telephone, cable and power utilities. The most essential issue is minimizing their impact on the visual quality of streets. Utilities can be relocated to alleys, back lots, or utility corridors.

If utility lines cannot be moved, attention should be given to the type of trees that are planted beneath them and the pruning care that these trees receive. Medium size trees with irregular branching habits should be chosen over large formally branched trees (honey locust versus linden). The irregular branching habit allows selective pruning of branches for proper clearances without ruining overall branching habits of the trees. Utility wires in canopy locations can be sleeved to reduce friction. Utilities can also be raised to heights where good tree canopies can hide their negative appearances.
Parking
America has gone through full cycles of building and removing on-street parking. Most urban spaces were designed not only to move autos and people, but also to store cars in convenient locations. Parked cars on streets create important physical separations between motorists and people walking in neighborhoods, in school areas, in parks and in downtowns.

Width
Parallel parking spaces are set at 8-foot widths. When bike lanes are added, the combined space is usually set at 13 feet. In these cases parking should be reduced to 7 feet. In some rare cases, when combined with bike lanes, parking lanes are reduced to six feet, while bike lanes are increased to 7 feet.

Parallel or Diagonal
Some drivers are uncomfortable with parallel parking. Parallel parking requires higher levels of driving skill to maneuver into spaces and causes drivers to open car doors and step into traffic. Diagonal parking treatments on streets with limited numbers of driveways increase the amount of parking accommodated from 25-60%. Although exiting drivers are protected, many find backing from spaces into traffic lanes difficult, especially elderly drivers who may have trouble looking to the rear. Reverse-in diagonal parking is proving to be an easier way to park in many towns.

Bike Lanes
Bike lanes or paved shoulders add sight-distance, provide forgiveness to errant drivers, create temporary storage areas for cars while emergency responders go by, and myriad of other benefits.

Width: Bike lanes are 6 feet wide from the curb face to the center of the lane stripe. Lesser dimensions are permitted in some circumstances. If lanes are less than 4 feet, they should not be labeled bike lanes. Widths of 2 feet are better than no edge space at all.

Materials: Bike lanes are made either of the same material, depth and base as travel lanes, or may be of a different material to create color contrast as shown in the photo on the left. In some cases, paved shoulders have lesser depth of base material, then reinforced to full depth and base at intersections. Contrasting materials create visual tightening of roadways, which has been shown to reduce speed in some settings.
Travel Lane(s)
Roadway travel lanes must move traffic at uniform speeds, provide flexibility in movement, and provide good, nonslip surfaces. A single urban travel lane can manage 15,000 vehicles daily (1500 in peak hour) to 20,000 vehicles (1800 in peak hour). Interruptions caused by driveways, crossover and intersection traffic greatly reduce carrying capacity of roadway lanes, but can be mitigated by medians and other traffic management techniques.

Width: Communities seeking to reduce speeding and risk to drivers, pedestrians and bicyclists are learning to reduce urban roadway lane widths in appropriate locations. Reductions from the typical 12-foot to 11-foot lane width may provide space for bike lanes, wider sidewalks or wider planter strips. But one-foot lane width reductions have no effect on vehicle speeds. Lane reductions to 10 feet create some reductions in speeding, which enhances stopping sight-distance. Lane reductions are often made when bike lanes are added. This extra edge space gives large trucks added room for turning into driveways and intersections. In some cases, 9-foot lanes are appropriate, or necessary, especially in low speed environments.

Speed: Increasing numbers of neighborhoods and communities are insisting that roadway lanes not reward speeders. The combination of lane widths and other geometries and operations that create comfort for 30 m.p.h. speed also maximize roadway capacity. Higher speeds reduce capacity (more separation is needed between cars). The tendency to build in an "extra margin of safety" by creating roadways with design speed 10 m.p.h. higher than posted speeds result in motorists feeling comfortable and therefore driving 10 m.p.h. faster than is safe. This misunderstanding of cause and effect increases noise, risk to drivers, pedestrians and bicyclists.

Medians and Turning Pockets
Medians provide buffers between opposing lanes of traffic and can increase carrying capacity of individual lanes by 30%. They do this by restricting the friction of crossover traffic and lane stoppages at turning points. At major driveways left turn pockets are provided in the median. This treatment enables management of access points along the road so that full access is provided at major generators and partial to no left turn access is provided at lesser driveways. Medians provide pedestrians with safe refuge as they cross streets. They allow space for street beautification and gateway treatments, and they help eliminate aggressive behaviors such as inappropriate passing.
Width: Median widths vary and are often determined by "leftover" space in the right-of-way when all other needs have been met. Medians of 4-8 feet are satisfactory for most pedestrian needs. An 8-foot median is considered sufficient for planting many species of trees and provides requisite setback to meet engineering clearance standards.

Height: Medians are typically designed with curb heights of 6 inches but some Los Altos medians have no curb.

Curb Extensions
Curb Extensions or bulb-outs are extensions of curbing that reduce lane widths. The Los Altos intersection at left is a great example of a bulb-out. Bulb-outs shorten crossing distances for pedestrians. Bulb-outs at intersections also slow turning traffic, provide added space for street amenities, protect parked vehicles, and improve sight lines. Curb extension can and should, for maximum calming effect, narrow the opening to low traffic volume (1000 cars daily or less) local streets to as little as 20 feet.

Crosswalks
Crosswalk markings are used to alert road users of a pedestrian crossing point and to provide guidance for pedestrians. At signalized locations, signals should be timed to allow people ample time to cross. Minimum timing is not adequate for senior citizens or young children. Highly visible crosswalks are especially important at uncontrolled locations on higher speed or multi-lane roads.

Low vehicle speeds, short crossing distances, refuge islands, and frequent crosswalks create a more people-friendly environment that encourages walking. Narrow streets, curb extensions, medians, and traffic calming measures all contribute to a more walkable environment.
Roundabouts

Roundabouts are designed to allow traffic to travel between 15 and 20 m.p.h. through intersections. Drivers circulating in roundabouts have right of way, so entering traffic yields. Drivers enter just as they would turn right from driveways – wait for gaps and enter. At traffic signals vehicles are sometimes delayed even when there is no traffic on cross streets. This inefficiency is eliminated at roundabouts, which can generally improve capacity of an intersection by 30%. Removal of traffic signals at roundabout sites saves maintenance costs of between $3,000-4,000/year.

Pedestrian crossings are placed one car length away from circulating traffic to ensure drivers’ attention is focused on walkers, not turning movements. This placement also encourages people to cross behind vehicles entering roundabouts. Splitter islands, triangular islands at entries to roundabouts, often create refuges for people waiting for crossing gaps.

Roundabouts offer opportunities to provide attractive entries and focal points. Center islands and splitter islands are often landscaped. Roundabouts terminate long street views, and have an effect on calming all approaching streets. The more height and color to landscaping the further out the calming effect, and the safer the island becomes to all approaching motorists.

Roundabouts are good landmarks and often serve as gateways to their communities. Many intersections in Los Altos could benefit from a roundabout. For example, the intersection of San Antonio and West Edith is a possible location, for a gateway to downtown.
Transport System Recommendations

Charrette participants proposed a transportation vision based on no increase in traffic over current levels. The Circulation Plan of the 1987 Los Altos General Plan acknowledged the desire of community to discourage through traffic in Los Altos. Opinions expressed during the charrette process validated this policy and went a step further. Participants expressed a desire to reduce traffic within their community. This sharply contrasts with practice in some areas to widen streets and intersections to accommodate the steady increase in traffic at levels of service that minimize delay to vehicles.

To mitigate the impact of traffic on Los Altos, a two-pronged approach is recommended. The first is to reduce the number of trips generated locally. To achieve this, there must be a proactive set of policies and programs for trip reductions and incentives to reduce driving. If trip reduction strategies are not implemented, increased congestion will occur.

At the same time, existing traffic must be calmed through the use of active and passive measures. Such measures will slow traffic without increasing congestion. The result will be increased safety and decreased impact on the community.

Trip Reduction:
Sustainable Land Use Practices
Create Walkable Villages

One strategy that some jurisdictions are implementing is to create walkable villages by providing mixed use, higher density in-fill near existing shopping areas. Provide facilities to encourage walking and bicycling between nearby residential areas and the village. A walkable village is defined as a compact neighborhood that is mixed use, mixed income and limited in area by a walking distance of five minutes from center to edge (a radius of approximately 1350 feet). A walkable village is conceived to fulfill most ordinary human needs, including those of transportation.
Loyola Street (at right) is one of the few streets passing over Foothill Expressway. As a node for a Walkable Village, the area serves as a hub. The downtown is connected by way of various routes to the surrounding neighborhoods.

Recommended walkable village sites include each of the seven commercial zones in Los Altos: Downtown (an existing example of a walkable village which should be encouraged to grow along the following guidelines); the El Camino Real corridor; Village Court Shopping Center and Sherwood Triangle; Loyola Corners; Rancho Shopping Center; Woodland Plaza and Foothill Plaza. Each of these locations provides existing commercial uses, which may be completed as a village by providing additional housing and other uses to form a complete village.

Each walkable village should seek to fulfill the goal of balanced uses within the village, such that under ideal conditions, the daily needs of the residents can be met within the area. Achieving even an approximation to this goal fosters community formation, reduces motor vehicles, aids in the establishment of a stable tax base and retail sector, and allows residents who cannot drive to live full lives. As a rule of thumb for North America, balanced use includes: 2.4 residents per household, each household requiring 40 square feet of retail and 120 square feet of workplace.

The Walkable Village may be contrasted with auto-oriented Conventional Suburban Development, a planning system characterized by single-use zones with the housing pod, the shopping center, and the business park as its basic elements, requiring frequent and lengthy automobile trips to move from single-use zone to zone.

Most people would consider walking 1350 feet, or about 1 1/4 mile, instead of taking a motor vehicle.
Increase convenience retail in downtown and other locations

To allow residents to meet routine household needs without driving to distant retail located outside the community, the City should actively regulate uses within commercial areas to achieve a healthy mix of retail and entertainment uses. In addition, the City should actively recruit businesses to provide for basic needs, including pharmacies, hardware, and similar goods.

Some cities have attempted to reduce household costs for food and other items by allowing the concentration of groceries and other retail into ‘big box’ establishments of 35,000 square feet or more. The result, however, has too often been excessive costs to the community, in the form of traffic woes and high city expenditures needed to mitigate them, and, for private citizens, the typical expenditure of 20% of household budget on transportation. Public and household transportation costs should therefore be reduced, and home values enhanced, by establishing limits on the size of groceries and other potential ‘big box’ retail uses. We recommend a limit of 20,000 square feet per establishment.

Add school access points

Campuses need to have several points of entry to facilitate access.
Walking School Bus

The Walking School Bus or other parent participation programs for elementary school students living within walking distance need to be emphasized. As explained in the following passage from the United Kingdom's Department of Environment, Transport and the Regions, the walking school bus is a practical means of reducing driving trips to schools, while alleviating parent's concerns about their children's safety:

Parents may have difficulty in finding time to walk to school. One option is to arrange a rotating escort - so that two or three families take turns in accompanying children. Some primary schools have taken this idea much further by setting up a 'walking bus'. This is a group of children, walking to school with two parent volunteers - a 'driver', who leads the way, and a 'conductor' at the rear. The walking bus follows a set route, stopping at agreed pick up points in the neighborhood. Volunteers and children are kitted out with reflective clothing and a trolley can be used to carry bags. A number of safety checks can be used in setting up schemes, for example:

- volunteers receive training in road safety and follow a route worked out by a road safety officer
- a ratio of at least one volunteer to eight children is recommended for junior age children
- parents sign a consent form and make sure their child understands a set of road safety guidelines
- volunteers are vetted by police to check they have no criminal background
- arrangements are made for volunteers to be covered by third party public liability insurance, for example through the local authority.
School Sidewalk Program
Dedicate funding of at least $250,000 per year to the construction of sidewalks at schools.

Provide sidewalks
Provide sidewalks within one-quarter mile of all schools, parks, and commercial districts. Implement a program in which private and public funding is used to provide frequent resting places for senior citizens.

Trip Reduction: Improved Transit System
Participants in the Valley Transportation Authority’s Eco-Pass program get unlimited rides on all VTA buses, light rail, ADA paratransit service, and now also on the Caltrain commuter rail line linking Los Altos to Gilroy and San Jose. Employers purchase Eco Passes for all full-time employers or residents, while paying one low price. Rather than paying annual bus pass fees of nearly $700 annually, Individuals can pay a fee of as low as $40 per person per year. With the implementation of the Rapid Bus Transit line along El Camino through Los Altos, and the funded increases in Caltrain service, this service will become increasingly valuable.

Improved Transit Stops
Current transit stops are largely provided and maintained by the Valley Transportation Authority (VTA), and are often minimal, consisting of little more than a signpost in the dirt. To encourage transit ridership and reflect the unique character of Los Altos, the City should establish a budget to supplement the existing VTA budget for transit stops, and in cooperation with the transit agency, improve the stops. This should include:

- Add, at a minimum, a sidewalk and bench at all stops;
- Add shelters, bicycle racks, lighting, trash cans and other amenities at heavily used stops;
- Create design guidelines for transit stops that reflect the rural heritage of Los Altos.

Finally, the successful Adopt-A-Stop programs employed by many cities to provide and maintain transit shelters and benches should be emulated by the City.
Cash-out parking at all employment centers (above 50 employees)
Current development practices in many cities require that private landowners provide ample free parking for all employees (a requirement whose cost in Silicon Valley now often exceeds $2000 per employee per year), but have no corresponding requirement to ensure that employees who do not drive receive an equal financial benefit. Parking cash-out programs have proven to be the single most powerful, flexible and adaptive measure that cities can take to quickly reduce traffic levels, and must not be overlooked.

Future public works projects
Future projects should fully support walking and bicycling in accordance with Street Design Guidelines by adopting policies and budgets to ensure compliance.

Traffic Calming: Reduce Speeding and Uncivil Driving Practices
As important as trip reduction is the calming of traffic for safety and quality of life. Until trips are reduced, and after trips are reduced, traffic must still be managed. Neighborhood traffic management to discourage cut through traffic and reduce speeds can be achieved using a variety of traffic calming treatments. This report segregates traffic calming treatments into two categories, passive and active.

Passive measures are primarily visual treatments that do not significantly intrude into the motorist travel space or change roadway dimensions in any way. This category includes trees, landscaping treatments, on-street parking, drainage swales, bike lanes, and signing.

Active traffic calming measures are treatments that require the vehicle to go around or over an installation in the street. Curb extensions, speed humps and tables, diverters, and roundabouts are examples of active measures.
Passive Traffic Calming

Resident Tree Planting Program
Incentives such as free trees or planting, assistance with selection, and advice on maintenance should be offered by the city. Shaded neighborhoods can be up to thirteen degrees cooler. Many resources are available for urban forestry efforts. The USDA Forest Service is just one of the Federal, State, and Local governmental agencies supporting planting of trees.

Neighborhood Revitalization Program
The community should consider a Neighborhood Revitalization Program to promote implementation of street designs that support the vision of lower speeds, reduced cut-through traffic, and increased biking and walking trips. For example, residents could circulate a petition to indicate that 60% of those residing in the affected block(s) want to participate in the program. Once qualified, residents may attend an evening presentation, where they learn about street improvements covered under the program. Those improvements include elements such as:
- Passive traffic calming: swales, trees
- Trimming of overgrown vegetation
- Active traffic calming
- Sidewalks: minimum five foot
- Curbs and gutters, or swales on street edges

Passive School Traffic Calming Program
Develop a ‘toolbox’ of active and passive traffic calming treatments applicable to various neighborhood school situations

Invoke Active Enforcement
Enforce speed limits. Provide a hotline for residents to report repeated speeding and aggressive driving behavior.
Train School Aged Children
Bicycle and walking safety skills training program in schools that provide hands-on instruction for students.

Coordinate Public Works Projects
Incorporate traffic calming treatments as needed to promote speeds compliant with posted limits.

Develop Model Project Corridor
Evaluate the scope, mission, funding levels, and treatment techniques of the existing neighborhood traffic calming program. One approach adopted by other communities is to require a 25% match from future participating neighborhoods. Develop, build and evaluate a traffic calmed corridor. Collect speed and volume data before treatments, during temporary installation, and after final installation.

Integrate traffic calming in all street reconstruction activities
Install raised table crosswalks, bulb outs, refuge islands, in-road slow zone signing, and other traffic calming treatments as needed to attain motorist compliance with school zone speed limits and pedestrian rights-of-way.

Double Traffic Fines in School Zones
Punish unsafe drivers by raising penalties in sensitive areas like school zones.

Residents must realize that they themselves are the source of considerable traffic. The less motorized trips they take, the less traffic there will be. Less trips means fewer cars, trucks, and SUV’s on the road. Fewer vehicles means less environmental impact in terms of noise, pollution, and degraded quality of life.

When walkways are sufficiently enhanced, more people will use them. As links between neighborhoods serve as network components, people will realize that walking and biking are attractive alternatives to running errands in a car.
This walkway appears neither convenient nor safe. Still, the adult prefers the rough, narrow walkway over the danger of walking in the street.

Sample Projects

Project One: Walkways
The first sample project addresses community sidewalk concerns. Strong feelings about pedestrian walkways are evident. Many feel that the lack of sidewalks represented a critical aspect of Los Altos’ rustic or rural atmosphere. Others feel that safety is more important than aesthetic considerations. The consultant team recommends installation of curbs and sidewalks, especially at and near schools, parks, and business districts.

The community also suggested a number of sidewalk priorities, including installation of sidewalks near schools and along main roads. A site along Springer is typical of a Los Altos collector and was selected as the first sample project. Walkways should be separated from the street and curb by a planting strip. The strip serves as a buffer from traffic, improving the walker’s feeling of safety while improving the quality of the walking experience. If possible the planting strip should include landscaping features such as shrubs and trees. Shrubs and trees have the additional benefit of serving as passive traffic calming measures.

Project Two: Walkways and Road Diets
The photos on the next page illustrate Project Two. One practical objection to installation of sidewalks is that the homeowners often have substantial investments in mature landscaping bordering the street. Not only would they be understandably reluctant to remove such planting, but the removal is counter-productive to traffic calming efforts. At the same time, many of the streets in Los Altos are much
Walkways and planting strips can be installed without affecting mature landscaping.

wider than they need to be. Another sample project shows how sidewalks with planting strips and curbs could be installed without affecting existing landscaping. The overly wide street is simply narrowed by the width of the sidewalk.

The intersection of Austin and Juarez in South Los Altos is the site of Project Two. Austin remains wide enough for the small amount of traffic even after some of the roadway is taken up with the proposed improvements. An additional benefit of the sidewalk installation is the improved sight distance at the intersection. The new sidewalk and planting strip serve the same function as a bulb-out, allowing vehicles to see and be seen. The proposed sidewalk installation also shortens the distance pedestrians must cover to cross the street.

**Project Three: Walkways and Road Diets**

Project three is another example of this kind of improvement. This typical Los Altos corner has no sidewalks. Sidewalks with planting strips could be installed to make walking safer and more enjoyable. At the same time, driving safety is improved because of the greater sight distances and the lower speed caused by the narrower roadway. Broadening the walkway and planting strip is a type of curb extension. By extending the curb into the roadway the road is narrowed, providing a calming effect. Pedestrian safety is also enhanced. The result is visually more appealing as well.

The photos illustrate Project Three. The street is so wide that it can easily accommodate sidewalks and planter strips. The lower photo is a simulation.

The photo at right shows a diagonal curb ramp which does not follow ADA Accessibility Guidelines.

Los Altos Transportation Charrette 26
Both this and the previous example include properly installed ADA ramps. On each corner, there are two ramps situated perpendicularly. Such an installation aims across each intersection, in line with the crosswalks. In many situations, diagonal curb ramps are less costly to install, but they can create potential safety and mobility problems for pedestrians. If diagonal ramps are installed, the Americans with Disabilities Act Accessibility Guidelines (ADAAG) state that the design must allow at least four feet at the base of the ramp for wheelchairs to maneuver into the crosswalk.

**Project Four: Links and Connections**
Sample Project Four addressed the community’s desire to reduce local vehicular trips by improving existing neighborhood links and developing new ones. These links allow walkers and cyclists to connect up with destinations by routes not accessible to vehicular traffic. Links allow access between cul-de-sacs, the back and sides of school properties, neighborhoods, and business districts.

An unpaved neighborhood link already exists at the Covington School site. This sample project proposes upgrading the existing walkway by paving and landscaping. Such an improvement would increase the desirability of using the route even in rainy or wet conditions. The upgrade also improves safety by providing more secure footing under all conditions. Modest pedestrian-scale lighting could increase usage after dark.

**Project Five: Tree Canopies**
Los Altos has many wonderful mature trees. More trees should be planted to help provide passive traffic calming in the years to come. The tree-lined street reflects many Americans’ vision of a residential neighborhood. The fourth sample project shows why planting trees is so desirable. This sample project demonstrates how passive treatments including swales and trees, can be used to treat streets similar to those in the Wakefield Terrace neighborhood. Careful selection of the trees species and placement in planter strips near the roadway will create a tree canopy that will help slow vehicles, provide shade and reduced energy costs. The shade contributes to a pleasant walking environment, a key element in promoting vehicle trip reduction.

(For additional information: Center for Urban Forest Research, wucfrc.ucdavis.edu/urban_forest_benefits_from.htm)
Project Six: Swales
Swales are depressions which may be wet at times. The use of swales along streets narrows overly wide thoroughfares, slows traffic without congestion, provides more distance between pedestrians and traffic, and may help with drainage of storm run-off. Because the swales are unlined water can percolate directly into the ground. Of course no curb or gutters are needed, saving money that can be used for walkways and landscaping. Use of swales could help reinforce Los Altos’ rustic image compared to traditional concrete curbs and gutters.

Project Seven: Active Traffic Calming
Project seven demonstrates a number of active traffic calming measures at the Loyola Elementary School on Berry. Presently the street is considerably wider than it needs to be. Motorists drive faster on wider streets, resulting in speeds that are inappropriately high. The danger to children in front of the school is considerable. The measures suggested here include narrowing of traffic lanes to ten feet, installation of bike lanes in conjunction with the narrowing, installation of a median refuge island, speed table crossing, and a curb extension.

The narrowing of lanes causes traffic to slow considerably, greatly improving the likelihood that traffic can and will stop to yield for pedestrians. The median island both helps to narrow the lane width and provides a refuge for pedestrians in the middle of the street. In case traffic does not permit a child to cross all the way, he or she can safely stop on the median island until it’s safe to proceed. The curb extension helps in a similar manner. At the same time it helps reduce the roadway width, it reduces the distance walkers must cross. They are less vulnerable as a result.

Well-trained School Crossing Guards can be effective in enhancing pedestrian safety. One of the recommendations is to implement a Certified School Crossing Guard Program at all schools, such as Florida has (Florida School Crossing Program, Florida DOT, 904 943-5600). Finally, mid-street signs reminding drivers to yield are being effectively used in many locales, including Palo Alto.
**Project Eight: Active Traffic Calming**

Project Eight also suggests active traffic calming near a school site. Oak School is located near the intersection of Oak and Truman. The large high school on Truman creates considerable traffic at the same time children are walking to school along Oak. Truman is much too wide, inducing the traffic it carries from Fremont Avenue to travel at higher speeds. The same narrowing of lanes proposed in the previous project would provide the same benefits at this intersection. The painting of bicycle lanes helps to narrow the visual width of the traffic lane. Installing a refuge island median at the crosswalk will discourage high speed turns from Oak onto Truman. At the same time, it shortens the crossing distance for pedestrians while providing a safe mid-street refuge.

**Project Nine: Active Traffic Calming**

Roundabouts are an important means of easing traffic congestion. Roundabouts are circular intersections which require the entering traffic to yield to the circulating traffic. Ideally, motorists never have to come to a complete stop. Low speeds are ensured by appropriate geometric curvature and channelized or “splitter” islands at entry points. Pedestrian crossings are placed at least one car length from the entry point. Roundabouts are often used to replace stop signs or traffic signals and typically operate with lower vehicle delays than other intersection forms and control types. At intersections with stop signs, vehicles must stop completely before proceeding. A roundabout harmonizes the traffic at low speeds and sends it on its way. Stopping and starting at intersections is a primary cause of congestion because it creates turbulence in the traffic stream. When traffic is present on one or more of the approaches to a roundabout, traffic within the queues usually continues to move. This is typically more tolerable to drivers than stopping or waiting.

Emergency responders generally prefer roundabouts over other forms of traffic calming. Larger vehicles, such as buses and fire trucks, can negotiate the gentle curvature by using the truck apron that surrounds the center. Splitter islands serve as a median to those entering and leaving the roundabout. The splitter islands and curb extensions work together to narrow the roadway while channeling the vehicle in the optimum direction at reduced speeds of around fifteen miles per hour.

This project would benefit Los Altos considerably in a number of ways. In addition to reducing congestion, noise, pollution, and waste are reduced. Pedestrian safety is enhanced because the elements of the roundabout slow traffic, reduce the crossing distance and provide refuge islands for pedestrians.
Recommended Funding Strategies

Funding Sources
What are the possible funding sources for rebuilding Los Altos streets? Recent changes in federal and state law have made more transportation funds more available, pushed most decision-making power over those funds from the state highway agencies to the local and regional level, and made funding categories more flexible, so that funds once reserved for highway expansion may now be used for traffic calming, bike lanes and sidewalks. Meanwhile, many jurisdictions are finding creative ways to leverage local funds and thereby finance projects that make streets safer and more beautiful.

Local Funds
Several cities have successfully added traffic calming, sidewalks, curbs and similar elements to other projects which involve digging up or rebuilding portions of a street: storm drain and sewer improvements, utility undergrounding projects, and routine street repaving and reconstruction are all possibilities. The greater the extent of the reconstruction, the greater the possibilities are for adding elements such as bulb-outs, medians and roundabouts at little cost. In some cities, combining traffic calming with other street work has allowed building traffic calming features for as little as 5% additional cost. In addition, communities avoid the disruption, noise and expense of repeatedly digging up a street and detouring traffic. However, such combination projects are not always feasible, and may require extensive coordination between departments and capital improvement projects whose schedules and budgets are normally separate.

Street Resurfacing or Reconstruction
Many cities have incorporated traffic calming into street reconstruction projects. In Venice, Florida, for example, officials brought new life to a dilapidated downtown by adding $80,000 to a main street resurfacing project: intersection bulb-outs, mid-block bulb-outs and median crossings, and crosswalks of colorful paver stones were all included. There may be opportunities to apply this general approach in Los Altos as well. In particular, Santa Clara County's transportation sales tax measures will provide a substantial amount of funding for city street maintenance and rehabilitation over the next few years, in addition to the funding normally provided from the City's general fund.
Sewer and Storm Drain Projects

In Fort Pierce, Florida, three blocks of new sidewalks together with a new roundabout were added to a long-planned sewer project. Built as concurrent construction, the sidewalks and roundabout added just $15,000 to the cost of the project. Similarly, Seattle has added planted medians to several streets at little or no extra cost as part of sewer upgrade projects. In the Los Altos area, construction costs are far above the national average but the same principle applies: by building traffic calming features as concurrent construction, savings are possible. Since the storm drain system is largely buried beneath the City’s streets, any planned improvements might be combined with the implementation of traffic calming measures. Opportunities may arise on various residential arterial, collector and local streets where traffic calming is desired.

Utility Under-grounding

Utility under-grounding projects often require extensive digging, demolition and replacement. Utility under-grounding typically requires the installation of new conduit, bases and often poles for streetlights (when the lights are on luminaires mounted on the overhead utility poles). Substantial savings may be possible by installing pedestrian-scale lighting (if it is desired for a street) at the same time, rather than digging up the street a second time to provide conduits and bases for pedestrian scale lighting, which typically requires more lights, placed closer together than the existing highway-scale lighting.

Development Impact Fees

San Jose and other cities have required that developers install traffic calming measures and pedestrian features as part of overall specific development agreements. On a more systematic basis, however, it is feasible for cities to levy impact fees on new developments to fund bicycle, pedestrian and traffic calming infrastructure. Generally, development impact fees are “scheduled charges applied to new development to generate revenue for the construction or expansion of capital facilities located outside the boundaries of new development (i.e. off-site) that benefit the contributing development.” As described in A Practitioner’s Guide to Development Impact Fees (Nicholas, Nelson & Juergensmeyer, 1991), “Where capital facilities are not adequate, permitting development to occur is contrary to the responsibility of a local government to protect public health, safety and welfare.” In order to protect public health and safety, then, the courts have held that cities may charge impact fees in order to recoup from each new development a proportionate share of the cost of providing adequate capital facilities — including the provision of safe streets. In the specific case of traffic calming measures, bicycle and pedestrian facilities, a city may proceed as follows. As the Practitioner’s Guide explains, “A properly created impact fee system begins with a good
comprehensive plan backed up with an equally good capital improvement program (CIP).” City Comprehensive Plan policies should clearly establish the city’s desire to protect public safety and welfare by providing bicycle and pedestrian facilities, and using traffic calming measures to create safe streets. Next, facilities services standards must be adopted. Just as a city may establish measures of adequate roadway capacity for motor vehicles: for example, that no more than 40 seconds of average delay at rush hour (i.e. Level of Service ‘D’) is acceptable for any intersection, a city may establish standards for bicycling and walking. For example, the standards might specify that:

- 5’ wide sidewalks are required on both sides of any roadway carrying more than 2500 vehicles per day; or it could require that walks are required on all streets belonging to the City’s designated pedestrian network.
- all arterial and collector streets shall provide bicycle lanes;
- the capital facilities specified in the City’s Bicycle and Pedestrian Plans must be completed;
- local residential streets shall operate at an 85th percentile speed of 20 m.p.h. or less; and collector and arterial streets shall operate at 30 m.p.h. or less.

Once the standards for a community have been set, the cost of achieving those standards must be determined (for example, the cost per mile of new sidewalks, multiplied by the miles of sidewalks needed). Finally, a proportionate share of that cost may be levied on new developments, in the form of an impact fee. This is likely to be the most difficult step. For roadway expansions, parks, public schools, parks, sewers and various other facilities, the methods of determining fair shares are well-established. However, few if any cities have established regular impact fees for bicycle and pedestrian facilities or for traffic calming measures, since until recently many communities have largely overlooked bicycling and walking needs. Nonetheless, the same principles apply: a fee schedule may be developed to raise a proportionate share of the cost of the needed capital facilities from new development. For a sidewalk impact fee, for example, a proportionate fee might be based on the number of pedestrian trips expected to be generated by the new development, or on the number of automobile trips generated (since reaching a certain level of automobile traffic on a street may require the construction of a sidewalk in order to meet a city’s standard for protecting pedestrian safety).
**State and Federal Transportation Funds**

The Transportation Equity Act for the 21st Century (TEA-21) increased federal funding for transportation by over 40%. On a simple per capita basis, Los Altos' share of these state and federal funds will exceed $23 million over the period from 1999 to 2005. However, funds are distributed on a partially competitive, not a simple per capita basis, and most of the funding priorities for the next four years have already been set in the previously prepared Bay Area Regional Transportation Improvement Plan (RTIP). Now, however, is the time to begin work on the plans that will dictate the next round of funding.

In sharp contrast to previous years, TEA-21 and California's recent Senate Bill 45 (SB 45) make traffic calming projects eligible for most federal and state sources of transportation dollars. The specific programs that can fund traffic calming are described in greater detail below. Essentially, these funds are accessed in two ways:

1) A few programs, such as the Hazard Elimination/Safety program or the Transportation for Livable Communities fund are administered at the state level or regional level. Municipalities apply directly to the state (to the California Department of Transportation, or 'Caltrans') or regional transportation planning agency (in the Bay Area, to the Metropolitan Transportation Commission) for these competitive funding pots. Those cities which have set clear priorities and have Council-approved plans in hand can often secure a larger share of funds.

2) For most transportation funding, the process begins at the local level, where city and county transportation and public works departments often draw up a list of project priorities. City staff then gather at the county level (in Los Altos' case, at the Valley Transportation Authority) to negotiate priorities. After approval by the Board of the appropriate county transportation agency, each of the nine Bay Area counties then forwards its project list to the Metropolitan Transportation Commission, the Bay Area's regional transportation planning agency, where the project lists are reviewed, approved and then assembled to create the latest version of the Regional Transportation Improvement Program.

**Statewide Transportation Improvement Program**

Funded at $8.3 billion over the 1999-2005 period, this program represents the lion's share of California's state and federal transportation dollars. Under California Senate Bill 45, 75% of the funds in this program are now controlled by the regional and county transportation agencies. This 75% share, called the Regional Improvement Program (RIP), contains four years of funding worth billions of dollars, and is updated every two years. Senate Bill 45 declares that RIP funds may be used for, among other things, improving local roads, pedestrian and bicycle facilities, and safety: in short, for construction of any of the alternatives suggested for Los Altos projects.
Transportation for Livable Communities Program
Funded at $9 million annually for the nine county Bay Area, this innovative program was created by the Metropolitan Transportation Commission to fund community-oriented transportation projects. The Commission funded it by setting aside the 75% regional share of the Transportation Enhancements program and a portion of the region’s Surface Transportation Program funds (see below). Project sponsors are encouraged to submit proposals that improve bicycling and walking, encourage transit ridership through transit-oriented development, and generally improve neighborhood livability.

Transportation Enhancements
This federal program, amounting to $60 million per year for California, funds a wide variety of smaller community-oriented projects, including renovation of historic transportation facilities, bicycle and pedestrian facilities, and Main Street revitalization programs. Seventy-five percent is programmed by local regional transportation planning agencies, and twenty-five percent is programmed by Caltrans at the state level. (In the Bay Area, the Metropolitan Transportation Commission has chosen to place the 75% regional share into the Transportation for Livable Communities program, described previously). For Los Altos, these funds could be used to help fund many of the suggested projects, including sidewalk and crosswalk improvements, medians, lighting and intersection safety improvements.

Surface Transportation Program
This federal fund is worth $500 million per year in California, and is usually programmed once every two to three years by the regional transportation planning agencies. STP funds are highly flexible funds for all sorts of capital projects, and could be used to fund any of the suggested street design projects.

Hazard Elimination and Safety Set-Aside
This federal safety funding provides $60 million per year for California, and is controlled by Caltrans. One-third of the funding is only available for state highways, one-third is locally-oriented and may be used for traffic calming, bicycle and pedestrian projects, and one-third is currently directed into the Safe Routes to School program.

Safe Routes to School: (Assembly Bill 1475)
This program currently directs $20 million per year in funding to projects providing safe passage to children walking or bicycling to school, including building bicycle paths and lanes, constructing sidewalks where none exist, and implementing “traffic calming” programs in neighborhoods around schools. However, the program will sunset at the end of this year, unless Senate Bill 10 (Soto), which proposes to extend the program for an additional three years, becomes law.
Bicycle Transportation Account (BTA)
This state fund, administered by the Caltrans Bicycle Facilities Unit, can be used for numerous items that aid cyclists, including median crossings, bicycle/pedestrian signals and bike lanes. SB 1772, which takes effect July 2001, increased funding for the BTA to $7.2 million per year for Fiscal Years 2001/02 through 2005/06. After 2005/06, annual BTA funding will be $5 million. For Fiscal Year 2001/02, the maximum an applicant may receive is $1.8 million. BTA funds pay a maximum of 90 percent of the cost of an eligible project.

Environmental Enhancement & Mitigation
This state fund is worth $10 million annually. Applications are accepted yearly, usually in November, by the California State Resources Agency in Sacramento. Two categories could be appropriate for improving Los Altos streets: the Highway Landscaping and Urban Forestry category is designed to offset vehicular emissions of carbon dioxide by funding the planting of street trees and other suitable plants. The Roadside Recreation category has been used by cities to fund parks and trailheads along streets.

Congestion Mitigation & Air Quality
This federal fund, worth over $300 million per year for California, is distributed to regional transportation planning agencies in areas with air quality problems for projects that improve air quality and reduce congestion. Bicycle and pedestrian improvements are specifically eligible for these funds.

Federal Transit Funds
California receives close to $1 billion annually in federal transit funds, and these funds may now be used not just for buses and trains, but also for projects which improve transit stops and bicycle/pedestrian access to them.