

# I. EXECUTIVE SUMMARY

## MISSION, OBJECTIVES & VISION

*"Create a Transportation Plan for the City of Santa Cruz that is inspiring, innovative and implementable with broad-based community support."*

*MTS Mission Statement*

In April 2000, the City of Santa Cruz and the University of California at Santa Cruz initiated a partnership to jointly fund a community-based approach to planning the City's transportation future. The Master Transportation Study (MTS) is the final document of this innovative, community-based approach to creating a safe, sustainable transportation future for Santa Cruz.

### Study Objectives

Four main objectives emerged from the community participation process:

- Expand and offer new travel choices for people who live, work, play and visit Santa Cruz
- Provide relief for citywide vehicle traffic congestion
- Enhance community livability
- Achieve a sustainable transportation future

The MTS integrates pedestrian, bicycle, transit and street transportation plans and programs as a foundation for updating the City's General Plan, City zoning ordinance, UCSC's Long Range Development Plan and other city and regional transportation planning documents.

### Vision

Taking its strategic direction from community workshops held throughout the City, the MTS developed a vision of sustainable transportation that offers new choices for transportation and a more livable environment for neighborhoods.

*"The residents of Santa Cruz will make people- and neighborhood-friendly transportation a priority. Transportation will be safe, clean, affordable and sustainable. Santa Cruz will become widely known as the City where it's fun and easy to get around without a car."*

*Introduction to the MTS Vision*

## TRANSPORTATION CHALLENGES & OPPORTUNITIES

### Challenges

The overarching challenge for Santa Cruz is the continuation of the present rate of growth of automobile trips that is increasing faster than population growth. This trend will exacerbate vehicle traffic congestion -- with an associated loss of neighborhood livability -- unless the community makes determined changes to:

- Increase transportation choices,
- Reduce automobile dependency, and
- Use travel modes other than the single occupant vehicle.

There are several key challenges to relieve existing vehicle traffic congestion and ensure no further growth in congestion by 2020. Overcoming the following challenges can enhance community livability and support a sustainable transportation future:

- **Future traffic growth.** If there is no change in travel behavior from today, forecasts indicate an increase of 19% for vehicle miles of travel during the PM peak hour. Vehicle hours of delay are projected to increase 92% as shown in Table 1. This substantial increase in delay is due to 6,000 p.m. peak-hour vehicle trips added to the transportation system by 2020 as shown in Table 2.

Table 1: Comparison of Existing and Year 2020 Traffic Performance Measures Assuming Current Trends		
Year	PM Peak Hour	
	Vehicle Hours of Delay (VHD)	Vehicle Miles of Travel (VMT)
2000	157	73,973
2020	302	88,180
<b>Percent increase between 2000 and 2020</b>	92%	19%

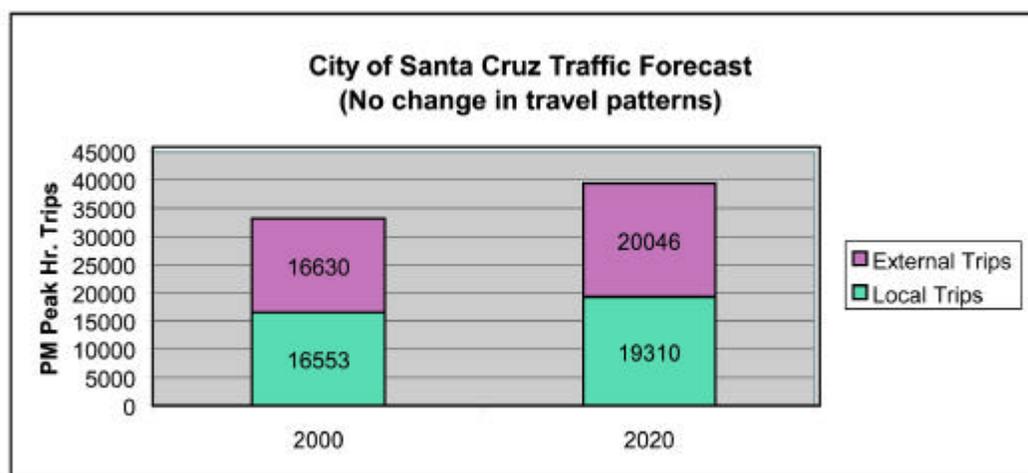
*Notes: Data from Association of Monterey Bay Area Governments regional travel demand forecasting model.*

- **Need to significantly reduce peak-hour single occupant vehicle trips.** To achieve no growth in peak hour traffic by 2020, local vehicle trips internal to Santa Cruz need to be reduced by 17%, as shown in Table 2. Regional vehicle trips -- external commute in and out of town trips -- need to be reduced by 21% to achieve this objective.
- **The degree to which the City can influence local and regional travel.** Analysis indicates that about 50 percent of **peak-hour vehicle trips within Santa Cruz are "internal" to the City** as shown in Chart 1. The City has greatest influence on these trips. A key challenge for Santa Cruz is addressing both local and regional travel.

Table 2: Comparison of Existing and Year 2020 Trips Assuming Current Trends			
Year	PM Peak Hour Trips		
	Trips Internal to Santa Cruz (II)	Trips bet. Santa Cruz and External Zones (IXXI + XIIX)	Total Santa Cruz Trips (II + IXXI + XIIX)
2000	16,553	16,630	33,183
2020	19,310	20,046	39,356
Net Growth	2,775	3,416	6,173
Percent Increase	17%	21%	19%

*Association of Monterey Bay Area Governments regional travel demand model.*

**Chart 1: Projected Growth in Local and Regional Santa Cruz Travel 2000 - 2020**



- **Santa Cruz cannot build its way out of vehicle traffic congestion because of the "triple convergence" principle.** When road capacity is increased, total travel time will ultimately equalize over time until traffic moves at the same levels of congestion as it did previously. Expanding roadway capacity cannot eliminate periods of frustratingly slow speeds.

### Key regional challenges are:

- **Highway 1 congestion**, where the four-lane freeway currently operates very poorly. Midweek congestion lasts 3.5 to 4 hours. Average daily traffic volumes will increase by 25 percent.
- **Low-density population growth in the unincorporated areas of Santa Cruz County and Watsonville.** Population is projected to increase by 17 percent by 2020. Low-density development and growth will contribute to increasing auto dependence. This pattern of development is less responsive to shifting away from single-occupant-vehicle (SOV) modes of travel and utilizing fixed-route transit services.

## OPPORTUNITIES

Santa Cruz has a number of assets and opportunities to address the key challenges and advance the MTS vision.

- Santa Cruz is blessed with a **beautiful environmental setting** ranging from redwood-covered coastal mountains to bright, sandy beaches, entertaining seaside attractions, vibrant downtown, rich university life and diverse residential neighborhoods.
- Santa Cruz has the potential to be a **highly accessible city** with its walkable-scale street and block pattern, a highly interconnected street network and the clustering of employment and commercial centers of activity.
- Santa Cruz's values emphasize an **open-minded attitude** toward community building, participatory planning, environmental consciousness and celebrating diversity. The Santa Cruz community has a willingness to change to be less "auto-centric" and improve the quality of life for people from all social and economic backgrounds. The city has a long-standing commitment to be sustainable over time.
- Santa Cruz has a **good existing transit system** and is a community with **above average non-auto trips** and **high transit ridership**. UCSC is a local model for sustainable transportation with high non-SOV mode splits. Santa Cruz has the opportunity **to capitalize on the high number of short trips within the City**, and provide alternatives to the 50% of commuters who remain within the city-limits.

- Santa Cruz can build on the effectiveness of the existing transit system, maximize the efficiency of land use adjacent to transportation hubs and **ensure walking is an even more attractive travel choice** than it is today.

## STUDY RECOMMENDATIONS

### Short-Term City Initiatives

The Master Transportation Study recommends the City of Santa Cruz implement the following actions:

#### I. Adopt the following strategic initiatives.

1. **Land Use:** Establish a hierarchy of walkable, mixed-used, transit-oriented village centers.
2. **Transit:** Link local and regional centers with high-occupancy, high frequency transit service that will maximize ridership. Transit service that moves independent of vehicle congestion will be given priority.
3. **Pedestrian System:** Complete, maintain and enhance the pedestrian network to encourage walking for both transportation and health benefits
4. **Bicycle Initiative:** Interconnect the bicycle network and provide new safety, security and transit-oriented design elements to encourage cycling.
5. **Transportation Systems Management:** Implement transportation systems management to close gaps, open bottlenecks and increase the efficiency of a multi-modal roadway and intersection system.
6. **Livable Streets and Pedestrian-Oriented Design:** Emphasize multi-modal street design to create livable streets and enhance transportation choices.
7. **Traffic calming:** Calm vehicle traffic to enhance livability and improve safety in all areas of the City.
8. **Parking and Transportation Demand Management:** Manage parking and demand for vehicle travel. This is the most cost-effective way to shift travel behavior to higher occupant vehicle travel modes.
9. **Regional Planning:** Develop partnerships for regional and local transportation and land use solutions.
10. **Investment Priorities:** Prioritize investments to ensure long-term transportation sustainability and achieve a "triple bottom line," integrating economic, ecological and social improvements. Preserving and maintaining all transportation modes, services, and infrastructure shall be the first priority.
11. **Monitor Performance:** Measure success and recalibrate strategies to increase effectiveness.
12. **Education and Promotion:** Engage the community with new programs and educational campaigns to inspire innovation; develop mutually beneficial networks; and encourage sharing of resources.

**II. Adopt an aggressive multi-faceted MTS campaign including TDM measures and short-term local transit services to increase person trip mobility by 19% over today's levels, while increasing vehicle trips during the peak hour by only 7% (for analysis see Future Travel Scenarios).**

**III. Adopt 2020 target mode splits for internal and external travel as shown in the Table 3.**

**Table 3: MTS 2020 Mode Split Goals**

	SOV	MOV	BUS	BIKE	WALK
Internal Trips -- 2000	68%	12%	8%	8%	4%
Internal Trips -- 2020 Goal	55%	16%	10%	11%	8%
Net Change	-13%	+4%	+2%	+3%	+4%
External Trips – 2000	80%	16%	4%	0%	0%
External Trips – 2020 Goal	76%	19%	5%	0%	0%
Net Change	-4%	+3%	+1%	0%	0%

*(SOV: single occupant vehicle; MOV: multiple occupant vehicle.)*

### Short-Term Transit Strategies

- Give right-of-way priority to transit through incremental Bus Rapid Transit (BRT) improvements that lead to a long-term BRT system. Incremental improvements include bus queue jump lanes, transit priority signalization, *pre-payment of transit fares and reversible parking and travel lanes.*
- Refine and build on the successes of the existing METRO system.
- Augment key transit services of the existing transit system to offer a core, high-frequency limited-transfer transit network serving activity centers & region.
- Develop Metro Base; it is required for the successful implementation of expanded and improved transit services.

- **At this time, a Bus Rapid Transit (BRT) system is the most flexible and cost effective transit technology to apply to Santa Cruz.** It is a technology that can address both the regional mobility challenge of Highway 1 congestion, and the low-density distribution countywide and growth of development in South Santa Cruz County. Bus Rapid Transit is a system that combines the quality of rail line with the flexibility of buses. It can operate on ordinary city streets, exclusive transit ways or HOV lanes with priority for transit being the key component. A BRT system combines intelligent transportation systems technology, cleaner and quieter vehicles, rapid and convenient fare collection, and integration with land use policy.

### Long-term Recommendations Requiring Immediate Planning

After implementation of the 12 strategic initiatives, vehicle traffic will need to be reduced an additional 7% to reach no net growth in vehicle traffic from 2000 to 2020. The 7% of trips are attributable to growth in external trips, which cannot be directly influenced by City policy. Therefore, the MTS recommends planning today for the future implementation of a regional transit/carpooling strategy emphasizing either:

1. **Carpooling and modest transit:** by increasing external mode splits from 16.4% to 27.4% for carpools (67% increase) and from 3.8% to 5.7% for transit (50% increase); or
2. **Transit:** by increasing external trip transit mode split from 3.8 % to 8.6% by 2020.

### Key long-term recommendations are:

- **Three public rights-of-way are available to help achieve the goal of zero growth in future vehicle traffic by 2020:**
  1. **Local Arterial Street Network.** Achieving the needed transit service along the Soquel Avenue and Water Street corridor will require a dedicated high-occupancy-vehicle (HOV) lane or bus rapid transit (BRT) lane during the peak-hour within existing right-of-way.
  2. **Rail Corridor.** BRT on the rail corridor right-of-way provides a sustainable option.
  3. **Highway 1.** Widening Highway 1 to accommodate HOV lanes where buses would share the carpool lanes also has potential to be a feasible transit/carpool solution as currently pursued by the SCCRTC.
- **The Rail Corridor right-of-way option should be supported as a real alternative to meeting external mode split goals.** It is anticipated that some combination of incremental BRT on arterial streets together with BRT on the UP rail corridor will provide the most sustainable long-term solution for the City.
- **Environmental analysis for the Highway 1 widening project needs to be conducted to ensure HOV proposals are sensitive to City needs and the MTS**

**vision.** Given the regional pressure to fund a Highway 1 HOV solution, the City of Santa Cruz needs to support a careful evaluation of the potential environmental impacts of the proposal. The Caltrans Project Study Report for Route 1 Widening underlines need for the City to be diligent in the environmental evaluation of the project. The following impacts and issues should be addressed:

1. The traffic impacts associated with spending such a large percentage of the Transportation resources on one project.
  2. The increase of local street traffic congestion because of increased peak hour volumes.
  3. Environmental and quality of life impacts associated with air quality, visual impacts, noise, parking, and construction.
  4. Traffic impacts during construction.
  5. Parking impacts associated with increased SOV and carpooling traffic.
  6. Impacts on local and regional land use.
  7. Maintaining new lanes for high occupancy vehicles.
  8. The project objectives should consider the lifetime cost-benefits of a full range of alternatives, including BRT on the rail corridor. Congestion relief and capacity increase are currently regarded as the main benefits of the widening project.
- **Addressing regional traffic impacts on Santa Cruz will require regional collaboration. Regional solutions need to address regional problems. However, through partnership, regional solutions can generate both local and regional benefits.** Santa Cruz will need to build upon the existing successful partnerships with UCSC, Metro, SCCRTC, Santa Cruz County, Caltrans, various business associations and major employers in Santa Cruz and to expand and invest in non-SOV travel options from trips external to the City.
  - **Consideration of future growth beyond the estimate of the existing University's Long Range Development Plan of 15,000 students is beyond the assumptions projected in this document,** and can be addressed as part of the General Plan Update and new Long Range Development Plan. It is recommended that the University and City collaborate and coordinate these efforts.
  - **The plan must maintain the flexibility to effectively use innovative technologies.** The City should continually consider the application of innovative technologies to increase local and regional transit ridership. These might include both non-fixed route transit options such as ibus, hybrid rubber wheeled transit vehicles, alternate fueled buses and fixed-route transit such as sol-train, diesel mobile units ( DMU), light rail transit (LRT), or personal rapid transit (PRT) solutions.
  - **Investment priorities must be sensitive to economic cycles to ensure the long-term achievement of MTS goals.** A series of good times and bad times objectives are identified for the various economic cycles.

## KEYS TO SUCCESSFUL IMPLEMENTATION

The successful implementation of the MTS will depend on five major components:

- Regular reporting of the **monitoring and review** of the effectiveness of the recommended programs.
- An **education campaign** that informs the community of the current trends and the role their personal travel choices and community/regional investment play in remedying congestion.
- **Personal and community** commitment to undertake steps necessary to **shift travel behavior towards sustainability** and a livable future.
- Strong **local and regional partnerships** between the University of California at Santa Cruz, the City of Santa Cruz, the greater Santa Cruz community, and the Santa Cruz County Transit District to advance local and regional transportation solutions.
- **Community imagination and engagement** to creatively work together to implement new and expanded mobility options. Innovative "out-of-the-box" initiatives will emerge from new relationships, interactions and networks of mutual benefit.

