On April 18, 61 year-old Marjorie Waskosky, Coast City’s Children’s Librarian and her husband of 30 years, Stephan, were riding their bicycles southbound in a marked bicycle lane on Central Avenue at the north end of the central business district when they were struck from behind by a Cadillac SUV. Mrs. Waskosky was thrown over 30 ft. from the impact and died at the scene. Her husband was transported to Coast Central Hospital in critical condition. The driver of the SUV was identified as Amber Mills, 17, who later admitted to glancing at the infotainment screen on the Cadillac’s dashboard to read a text message from a friend. Her vehicle drifted to the right and struck the Waskoskys at about 45 mph.

Marjorie Waskosky became the 5th cyclist fatality on Central Ave. in the last 16 months. Two pedestrians were also recently struck and killed along the same stretch of road. Additionally, over 20 non-fatal bicycle/pedestrian/vehicle accidents were reported during the same time period on Central Ave. Mrs. Waskosky’s position and popularity with the children of Coast City created significant outcry over the accident and the bicycle/pedestrian/vehicle safety issue along Central Ave. City leaders decided something needed to be done.
Coast City

Coast City is a moderately-sized city of approximately 300,000 population on the central coast of a Western state. Historically, the city was founded as a fishing port in the early 1800s. Until the latter part of the 20th century, the primary industries in Coast City were fishing and canning. By the late 1980s, the fishing industry had mostly vanished and the vast canning plants on the north side of the city were closed and abandoned. During the tech boom of the 1990s, a large tech manufacturer acquired many of the old canning factories and rebuilt the area as a sprawling technology manufacturing center. This quickly attracted other technology and web-based companies and several technology campuses replaced the remaining canning facilities. The introduction of these new industries to Coast City rapidly revitalized the local economy and resulted in rapid growth, which continues to this day. Industrial transformation also dramatically altered the population from an older, mostly retired demographic to one dominated by younger technology professionals and their families. While past generations of Coast City residents favored automobile travel and prioritized industrial growth, today’s younger inhabitants are prone to balance commercial interests with concern for environmental health and fondness for alternative modes of transportation that promote sustainability.

Geographically, Coast City sits on a bluff above the Pacific Ocean with a mostly rocky shoreline. The only recreational beach is found on the southern edge of the city. To the east of the city, coastal hills rapidly rise to the coastal mountain range. The boundaries of the ocean to the west and mountains to the east limit Coast City to a narrow range of mostly flat bluff-top land. This means that the growth of the area is restricted to either the north or south of the city center. Land north of the existing tech industries is mostly salt marsh and a large slough designated as federally-protected open space. This means the population growth of Coast City is taking place
almost exclusively to the south of the central business district, which has created significant commuting congestion since most employment is found to the north.

The main north-south thoroughfare in Coast City is Central Ave., which runs along the top of the bluff in-land less than ¼ mile from the coast. This means that the, mostly commercial, development is found along Central Ave. or to the east of the thoroughfare. Central Ave. is part of the state highway system, which runs the length of the state. For more than 15 miles north of Coast City limits, the road is a six-lane, limited access highway. Just north of the technology centers, the road becomes unrestricted access, with the lanes narrowing to four, continuing through Coast City and for several additional miles to the south. The speed limit on Central Ave. is 55 mph north of the commercial center, then drops to 45 mph and finally to 30 mph in the business district before returning to 55 mph at the southern border of the city. Within the city limits, Central Ave. is mostly bordered by small retail shops, restaurants and cafes. A developer has purchased a significant parcel of land on the south end of the business district and is in the process of developing a large shopping mall, entertainment complex and 200 luxury condominiums, all slated to open within the year.

Currently, the stretch of Central Ave. that runs through the commercial district is four lanes with a 20 ft. landscaped central median dividing the north and southbound lanes. Angle-in parking lines both sides of the street and functions as the primary parking for local businesses. All parking is metered by the city. North of the city limit, there is a well-marked, 12 ft. wide bike lane on both sides of the road. This is part of the state north/south bikeway. This bike lane extends about .5 miles into Coast City but narrows abruptly to 4 ft. at the City boundary. The marked bike lane ends at the start of the commercial district, but signs indicate the road is part of the bikeways and to share the road with cyclists. This pattern continues through the commercial
district with the marked bike lane resuming .5 miles past the central district, near where the new complex is being developed.

Given the persistent mild weather in the area, cycling is very popular in Coast City. Given the younger demographic of most of the tech-company workforce, commuting along Central Ave. from the residential areas to the south to workplaces in the north is extremely popular and a way to avoid rush hour vehicle congestion. Central Ave. is also used extensively by recreational cyclists, both during the week and especially on weekends. With outdoor seating available at many of the cafes along Central Ave., cyclists comprise a significant percentage of the daily customers for the local cafes. Several local and regional cycling clubs routinely bring hundreds of cyclists to the cafes on weekends. In the evening, the population and customer base becomes more pedestrian centered. Parking, due to the limited number of spaces along Central Ave., is always in short supply. There are four traffic signals along the two mile stretch of the central commercial district, each with marked pedestrian crossings. Both pedestrian fatalities in the city occurred at the Harald St. crossing, which is located on a slight bend in the road.

Coast City also boasts a Rails-to-Trails conversion path which parallels Central Ave. but is located about one mile in-land from the road. This trail was developed from an old rail spur, which served the canning plants to the north. The trail runs from the tech centers to the north through the central business district and continues for over 30 miles to the south. The trail is mostly flat and is covered in fine-crush gravel. Within the city limits, there are 12 at-grade crossings of local streets. Only one intersection has a traffic signal. All others are signed with crosswalks.
Conflict

While cycling has been a popular activity in Coast City for decades, the rapid population growth from tech industries has added increasing volume of vehicle traffic to the local transportation mix. There are simply too many vehicles and bicycles attempting to share space on a very congested Central Ave. Commuting hours are particularly congested as workers stream either south-to-north in the mornings or north-to-south in the evenings, clogging one side of Central Ave. The congestion is exacerbated by cars attempting to reverse out into the traffic stream from the angle-in parking, and the lack of any marked bike lanes in the central commercial district. Three cycling fatalities have occurred as a cyclist swerved to avoid a backing vehicle and was struck by traffic. For larger vehicles there is often less than two feet of clearance between the end of the parked vehicle and the main traffic stream. If cyclists are present, vehicles are often unable to pass due to the narrow lanes. This tends to increase frustration and often results in on-road confrontations.

Not long after the accident, the Coast City police chief was interviewed on a local television station. His comments proved to be rather controversial: “I think it’s clear that bicycles and cars do not mix on Central Ave. We should look into banning bicycles from that part of the road. After all there is a perfectly good bike trail less than a mile away that follows the same direction as the road. Bicycles should be on the bike path where they belong, not impeding vehicle traffic.” Needless to say, the police chief’s remarks generated considerable reaction. One of the first to respond, in a separate television interview, was the president of one of the local bike clubs: “The police chief’s remarks demonstrate just how out of touch the police department of this city is when it comes to bicycles. Not only are bicycles legally permitted on Central Ave., it is also a part of the state-wide bicycle route network. Forcing large numbers of cyclists onto a
narrow, multi-use path, is going to result in a significant increase in accidents. Mixing bicycles, strollers, skateboards, dog walkers, pedestrians and other users is a sure fire way to guarantee conflict and accidents. We also need to keep in mind that the surface of the trail was never designed to accommodate large numbers of road cyclists. The police chief fails to understand that bicycles are a legitimate part of the vehicle mix in Coast City and treating them like a children’s toy is unacceptable.” The Coast City mayor responded to the police chief’s remarks in his weekly press conference: “Chief Bulman’s remarks do not reflect the official policies of Coast City. Obviously, we need to carefully review the cycling and pedestrian accidents on Central Ave. and develop an appropriate strategy to deal with the issue. Banning bicycles on Central Ave. should not be a part of that analysis.”

At the City Council meeting following the highly-publicized Waskosky accident, Councilman Robert Nguyen spoke to the need for dealing with the bicycle/pedestrian/vehicle safety issue on Central Ave. After a brief discussion, Council unanimously agreed to request the City Planning Department look into possible solutions to the issue and report back to Council within 60 days. Planning Director, Margaret Pinedo, commented that Coast City currently did not include bicycle/pedestrian elements in the city’s general plan and that adding such an element would significantly enhance Coast City’s ability to secure state and federal funds to improve the situation on Central Ave. and throughout the city. The city manager was quick to agree, noting that any solution would likely have to begin with a basic revision in the general plan to include cycling and pedestrian elements. He also noted that the city would need to employ a Cycling Coordinator if it wished to be considered for state program funds.
Planning Department Report

Planning Director Pinedo presented the Department’s report to the Council two months after receiving the assignment. Main points of the report are summarized below:

- Before any proposed solution to the Central Ave. problem is attempted, the city needed to amend the General Plan to include a cycling/pedestrian element. The State Transportation Department provides cities with a model planning element that would work well with the existing General Plan. Director Pinedo recommended that Council review the model planning element and approve it as an amendment to the General Plan.
- Once a cycling/pedestrian element was added to the General Plan, the Planning Department had funds to hire a part-time Cycling Coordinator.
- The Planning Department developed preliminary plans for four different strategies to deal with the Central Ave. issue:

  1. Remove the center island from Central Ave. and replace it with an additional traffic lane in each direction. This would allow the creation of a marked bike lane running the entire length of Central Ave. within Coast City. This option would require considerable planning efforts and would have to navigate a complex permit process from both the state and federal governments. Pre-construction planning is estimated to cost Coast City approximately $1.5 million and take two years. Actual construction would cost approx. $3 million to remove the existing center island and $10 million to construct the new traffic lanes (Nevada County Transportation Commission, 2007)\(^1\). That part of the project would take 12 – 18 months and require closure of one traffic lane in both directions for most of that time period. Creating the new pavement markings for the bike lane (Class II) would cost approximately $30,000. This assumes leaving the existing angle-in parking in place on Central Ave. Once completed, the flow of vehicular traffic would likely increase at least 10 – 15%. Population projections indicate that the projected traffic flow will prove inadequate within five years of completion and result in transit times for that part of Central Ave. to return to current levels or become slightly worse. The disruption during construction would substantially increase transit times and traffic delays while forcing both vehicles and bikes to share the one remaining traffic lane in each direction. This could be mitigated by banning on-street parking during construction and converting the space used for parking into a temporary vehicle lane, which would still be shared with bicycles. This option would exacerbate parking shortages in the business area and result in a loss of more than $500,000 in city parking meter revenues.

\(^1\) All cost basis figures used for estimation throughout this case study originate with data compiled and updated by local planning officials Lauren Buckland and Eric Anderson for inclusion in the 2007 Nevada County Bicycle Master Plan distributed by the Nevada County, CA Transportation Commission.
2. Ban bicycles from the two-mile section of Central Ave. that runs through the business district and require cyclists to use the existing Rails-to-Trails bike path. Since the existing surface of the multi-use trail is inadequate for the increase in usage, the entire length of the bike path in the city would need to be rebuilt and paved. This is estimated to cost over $500,000 per mile, or $6 million for the 12 miles of path in the city. Careful attention would have to be paid to at-grade road crossings as well with new markings, signage and additional signal lights adding an additional $1 million to the project. One immediate issue from this option would be the continued, unsanctioned, use of Central Ave. by cyclists, both during peak commute times and on weekends. While a vigorous enforcement program by the Coast City Police Department would help, as well as generate additional revenues from citations issued to cyclists using the road, there would be a significant cost in increased manpower for enforcement. This option is also likely to escalate tensions between both cyclists and motorists and cyclists and police. Local neighborhood associations, environmental and conservationist groups, and bicycle clubs would strongly oppose forcing commuting and fast recreational riders onto the multi-use path. An increase in accidents and injuries along the bike path should also be anticipated. There would also be a reduction in revenues from the businesses along Central Ave., especially the cafes and restaurants. Estimates on the total loss vary from $1 million to $3 million per year. The Downtown Business Owners Association (DBOA) would likely oppose such an option based on their projected revenue losses. The practical improvement in safety along the section of Central Ave. in question would be minimal at best and might actually lead to increased bicycle/vehicle conflicts and accidents.

3. Converting the existing angle-in metered parking along both sides of Central Ave. to parallel metered parking and using the recovered lane space to create a marked Class II bike lane. Since parallel parking consumes more curb space than the existing system, the number of available parking spaces would be reduced by about 60% resulting in a loss of parking meter revenue to the city of between $500,000 and $800,000 per year. The 60% reduction in existing parking spaces would also likely reduce business transactions in the corridor, resulting in an uncalculated loss to local businesses. The conversion process for both sides of the street would cost approximately $800,000 to $1 million total. Creation of the Class II bike lane would add another $30,000 to the project. Traffic impact would be minimal since construction could be accomplished during evening and off-peak hours. Once completed, vehicular transit time is estimated to be reduced by up to 15% during peak hours. Local cycling clubs have advocated this alternative for several years. The DBOA is strongly opposed to any reduction in available parking. A final note on this option: The new construction at the south end of Central Ave. will provide over 1,000 new parking spaces in a commercial parking structure. This could
mitigate the loss of metered parking at that end of the street. The city, however, would not recover revenue since the parking structure is privately owned.

4. Designation of the outer traffic lanes in both direction as shared vehicle/bicycle lanes through the installation of “sharrows” and other markings. While this represents the easiest and least expensive option at approximately $3,500 per mile, it also provides little in the way of improvement over the current situation. Signing the curb lane to be shared with bicycles would allow bikes to occupy the full width of the traffic lane. This would add substantially to the traffic delays on Central Ave. by effectively reducing vehicular traffic to one lane. This would not only significantly increase transit times but would also likely increase vehicle/bicycle conflicts. Sharrows also offer little change to the danger of vehicles backing from parking spaces since bicycles would still be forced to move fully into the traffic lane. Coast City Police, as well as local business associations and bicycling clubs, are strongly opposed to this option.

A few weeks after the Planning Department’s presentation to the City Council a representative of the Northshore Technical Consortium (NTC) which consists of the eight largest employers on the city’s north side, contacted the City Manager and asked permission to address the next Council meeting. At that meeting, the NTC representative presented a very different alternative to the Central Ave. issue: an elevated monorail/people mover system. This system, construction of which would largely be paid for by the NTC with federal grants and loans, would be constructed to provide a direct way of moving commuters from the south side residential areas to the technology park on the north side, essentially covering the 12 miles of the city. The NTC representative offered two options for locating the rail system. First, using the median of Central Ave. which would permit the most direct connection and allow an intermediate stop or stops in the business area. This would involve removing the current landscaping from the median and constructing the elevated system. The developer of the new commercial/residential project at the south end of the business district expressed support for this option, provided the city expanded the size of the proposed parking structure to accommodate commuter parking. The NTC
representative suggested that the city’s direct involvement would include an easement on Central Ave. but no direct construction financing. Construction time was estimated at 18 – 24 months, during which there would be periodic lane closures on Central Ave.

The second option was to construct the rail system over the existing Rails-to-Trails multi-use path. The representative assured the local homeowner’s association representatives that, while the path would be closed during construction, it would still be usable once construction was complete. A location for parking at the south terminus would have to be constructed by the city. The Public Works Director suggested it might be possible for the city to develop a jitney system in the residential neighborhoods to provide door-to-rail transportation and obviate the need for a large parking area. HOA reps still complained that such a system would substantially increase noise in quiet residential areas. Moreover, influential environmental groups vocally oppose the pollution and degradation associated with numerous years of heavy construction. In a broad sense, cooperation with local stakeholders over construction and maintenance of the monorail/people mover system faces substantial headwinds. Once completed, the system, in either location, was estimated to reduce peak hour commuting traffic on Central Ave. by as much as 75%.

The City Planning Director was quick to note that, contrary to the implication by the NTC, this project would not be “free” for the city. Either option would require a federally-mandated full Environmental Impact Assessment (EIA) which would cost the city several million dollars for each of the proposed routes. Even if the NTC found the funds to completely cover the construction costs (loans would become the city’s obligation) of the actual line, the question of the south terminus, parking and any intermediate stops would require the city to acquire land and build the facilities. The question of city involvement in the maintenance and upkeep of the
functioning system was also raised. While construction time was estimated at two years, the planning analysis and EIA would take at least two-to-three years before construction could begin and cost the city at least 3 million? Overall, she estimated that the “free” light rail system could actually end up costing the city well over $100 million.

The City Manager also noted that this approach could only be considered a long-term option that would not have any substantive positive impact for at least five years and, in the short run, would markedly increase congestion on Central Ave. during construction if that option were chosen. It would also increase the danger to cyclists until the construction project is finished. Construction on the Rails-to-Trails path also faces serious obstacles since the land is still owned by the previous railroad company, who might refuse permission for use or require a partnership agreement that would add substantial cost to the project.

City Council authorized the Planning Department to conduct a more detailed feasibility study and report back within 90 days.

The Central Ave. situation is a very complex and controversial problem for Coast City. There are a multitude of opinions, interests, and alternatives on the table. How should the city choose to handle the problem?