Traveling Safely in the North Bay

White Paper No. 16

Moving people quickly along the otherwise congested Highway 101 corridor won't be the most important function of Sonoma-Marin Area Rail Transit. SMART's most important job will be to move people quickly *and safely.*

SMART will not only provide a more environmentally friendly and stress-free way to travel in the North Bay, it will also provide a safer trip.

Riding in a train is much safer than riding in a car in the United States. But even while train travel is inherently safer, SMART is committed to making its North Bay passenger rail system a transportation alternative for which safety is the paramount concern. Safety elements include key physical infrastructure, dispatching and communications systems, public education programs and emergency preparedness plans.

Every transportation option comes with certain risks, but the risks are not always equal. SMART's Final Environmental Impact Report studied American passenger train fatalities over the five-year period from 2000 through 2004 and found six passenger fatalities, an average of 1.2 per year. Over the same period, 180,825 people died in motor vehicle accidents in the U.S. – an average of 36,165 a year.

Of course, more people travel by car than by train. But even when comparing fatality rates on a miles-traveled basis, train travels' rate of 0.126 fatalities per billion passenger-miles is many times lower than the motor vehicle rate of 8.45 per billion passenger miles. Travel by bus also is a bit more hazardous than by train, with a bus passenger fatality rate of 0.247 per billion miles – about twice that of rail.

Unfortunately, some rail-related fatalities do occur when individuals on the railroad tracks are struck by a train. Even at crossings where railroad tracks intersect roads and sidewalks, though, the risk of a bicyclist or pedestrian being hit by a train is no greater than that of being hit by a motor vehicle.

The exception to that rule takes place when people venture onto the rail line in areas away from formal crossings. The Federal Railroad Administration officially refers to this group as "trespassers." For the five-year period mentioned above, an average 53 trespassers were killed by trains each year. Unfortunately, many of these incidents were believed to be suicides.

While trains pass through grade crossings tens of thousands of times each day, there are remarkably few fatalities involving motor vehicles struck by trains. The 2000-2004 annual average was 11.4 motorists who died in collisions with trains. Almost all the accidents during that period involved drivers who had ignored warning signals and/or who had driven around or through stop signs or protective gates.

To reduce accidents between trains and vehicles, or trains and pedestrians, SMART will install safety measures including fencing, signs, gates and warning signals at rail crossings. At certain intersections that are designated quiet zones, SMART will add other safety measures such as curbs between lanes and/or quad gates (which block the street from curb to curb on both sides of the tracks), both of which are intended to physically prevent people from driving around gates.

It is exceedingly rare for a child to be struck by a train. From 2000 to 2006, none of those trespassing on the tracks and struck by a commuter train were under the age of 11, and only about 1% were between the age of 11 and 13.

Still, SMART believes that educating children about railroad safety is a key component of its project. Besides adhering to all state and federal regulations to promote public safety and discourage trespassing along the tracks – especially among school-aged children, SMART also has committed to working with Operation Lifesaver. Operation Lifesaver is a nationwide, non-profit information safety program dedicated to educating the public on how to reduce crashes, injuries and fatalities at at-grade rail crossings and on railroad rights-of-way. This public service creates awareness of the hazards that may occur on railroad property and at at-grade crossings in particular. Operation Lifesaver has developed an outreach education program specifically for children. SMART will sponsor this in-school education program beginning one year in advance of start-up of the project.

Sonoma-Marin Area Rail Transit proposes running passenger trains on the kind of two-directional "single track with passing sidings" system used by railroads throughout the country. These systems, such as the ACE train in the Bay Area, Metrolink in Los Angeles, Tri-Rail in South Florida and many others, have excellent records of safe operation. SMART will utilize the operational experience and lessons of these existing rail lines.

A computerized signaling and dispatching system, along with highly trained and experienced dispatchers to operate it, is a key safety feature on a single-track railroad. With passing sidings paralleling about 17 percent of SMART's track, dispatchers can coordinate train movements to allow trains travelling in opposite directions to safely pass each other. Because freight service also will be running on SMART's tracks north of Novato, SMART will control dispatching for both passenger and freight service.

A safety structure will separate SMART's 70-mile bicycle and pedestrian pathway from train traffic. The structure will be designed by location, taking into account the setback from the tracks and the speed of the trains in each location along the way.

Before SMART begins operating trains in Marin and Sonoma Counties, the agency will designate an Emergency Response Coordinator to develop and implement a coordinated Emergency Preparedness Plan in consultation with local emergency responders. The plan will include measures to address fire, safety, health and security emergencies. SMART will submit the Emergency Preparedness Plan to the Federal Railroad Administration (FRA) for approval prior to initiation of passenger rail service.

For more information about SMART, go to www.sonomamarintrain.org or call SMART's information lines in Marin, 415-419-3510, or Sonoma, 707-583-2323.