

## BULLETIN BOARD

### SO.CA.TA Notes

At our August 11<sup>th</sup> meeting, a representative from Flexcar will discuss their services. We will also discuss proposals for our August 25<sup>th</sup> study tour.

Our positions on Metro's service change proposals for December 2007 are posted on the front page of our website.

John Ulloth wishes to thank all the members who contributed ideas and suggestions for his recent presentation on the Pico/Olympic one-way couplet proposal to the West Los Angeles Democratic Club.

### In Other News

The MTA Board is holding a Long Range Plan Workshop on Thursday, August 16<sup>th</sup>, beginning at 9:00 AM, in the Board Room on the 3rd floor of Metro's headquarters in Downtown Los Angeles.

The Technical Advisory Committees of the LOSSAN Rail Corridor Agency and San Joaquin Valley Rail Committee are holding a Joint Meeting at Metro's headquarters on Thursday, August 23<sup>rd</sup>, starting at 11:30 AM. Further details at (619) 699-6957 or [lcu@sandag.org](mailto:lcu@sandag.org)

Link for joining the California High Speed Rail Authority mailing list:

<http://visitor.constantcontact.com/email.jsp?m=1101490177349>

Save 20 percent when you purchase a ticket for travel on the Pacific Surfliner to all destinations in Santa Barbara County now through Dec. 13 (reservations must be made three days in advance, blackout dates and restrictions apply). Details (and to register for the promotion code) are at <http://santabarbaracarfree.org/traindiscount.htm>, or call (805) 696-1100 and leave your address to get the code in the mail. 🚆

## MEMBERS IN ACTION

Hank Fung went to the Omnitrans service change hearing in Chino.

Ken Ruben attended the Metro Westside/Central Sector Council meeting in June and July, the July 17<sup>th</sup> Exposition Authority Meeting in Culver City, and the June 27<sup>th</sup> MTA Citizens Advisory meeting.

Roger Christensen had a letter in a recent issue of the *Los Angeles Business Journal*.

Assisting in SO.CA.TA's July 17<sup>th</sup> Wilshire corridor meeting in Beverly Hills were Dana Gabbard, Charles Hobbs, Lionel Jones, Robert Meinert, Kymberleigh Richards, Woody Rosner, and Alex Schaffer. Our thanks to Winston Corder of the Beverly

Hills Library for his assistance.

Jane Reifer made a presentation on public transportation in Orange County at the July 1<sup>st</sup> general meeting of the Green Party of Orange County, which John Ulloth also attended.

Jane Reifer and Roy Shahbazian put together a website to inform OCTA riders during the bus operator strike. Hank Fung, Mark Panitz, and Mark Strickert contributed alternative bus and train information when possible. Reifer, and text from the website, were quoted in the *Orange County Register* and its Spanish-language cousin *Excélsior*.

Kymberleigh Richard's op-ed piece "Union's position all out of gas" on the Bus Riders Union appeared in the July 18 *Daily News*. 🚆

What a fiasco! Despite their bombast and chest thumping by all signs the threatened fare strike by the Bus Riders Union has fizzled or barely ever even got started. In fact the entire fare increase repeal campaign they have been waging with a blizzard of posters along Wilshire (and perhaps elsewhere?) seem to have been for naught.

And here is a real BRU stumper--one of our members brought to our July meeting some of the glossy color promotional literature the BRU has been handing out to bus riders of late. Besides the unreadable far-left rhetoric, I was puzzled at the contradiction that while on one page they claim to have "3,000 dues paying members" on the facing page they claim to be "picking up 1,000 members a year in Spanish, Korean and English" by recruiting on the bus. The only explanation I have is their turnover of members must be quite high if after over a decade they at best have only 3,000 members (and frankly I suspect the real number is more like 300).

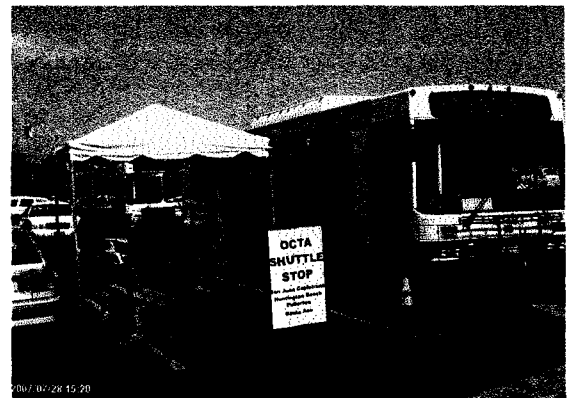
Based on my own observations and those of others, it appears Metro's Wilshire Rapid Express line 920 isn't an utter debacle. But it is disconcerting that while at best the 920 carries seated loads during rush hour the 720 buses running during those same hours are sardine-packed, often extremely so.

And how is the Silver Streak doing? The staff report at the June 22 Foothill Transit Executive Board meeting includes the statistics that it has been averaging 5,000 boardings per weekday. And during a three month period Transit Safety Offices issued 6 citations for fare evasion and gave an average of 40 warnings per month. I pity the poor p.r. person at Foothill who

has been attempting in their newsletter *Footnotes* to explain the mysteries of regional public transit funding. Frankly at times it even makes my head hurt. But I am proud that recently we have added to the front page of our website a link to an explanation of the Formula Allocation Procedure that is the most comprehensive and fairly accessible to the laymen that I have ever witnessed. A big thanks to members Kymberleigh Richards and Henry Fung for their assistance in preparing this material.

We were disappointed when the *L.A. Times* recently published an article on the Wilshire subway proposal ("Subway to the Sea plan Still Adrift", July 14) with no mention of our ongoing series of corridor meetings building support. And worse yet, our letter of complaint regarding this oversight to Times' Executive Vice President and Editor James O'Shea never received a response. No wonder so many complain the Times is quickly loosing whatever relevance it once had.

I'll conclude this month by noting Megabus is now poised to enter the California market, after making a big splash in other parts of the U.S. Should be interesting how this plays out. 🚌



## **How Fast Can a Train Go? Michael McGinley**

*From April-May 2007 California Rail News.  
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Planners and engineers developing new rail-based transport systems or improvements to existing systems all face the same set of six physical and regulatory constraints on how fast trains can go. Advocates for improved rail passenger service should be aware of the opportunities and limits of rail transportation, particularly when working with limited resources (cash, real estate, and time to implement a project). Some of these are exactly what our basic physics classes taught us about energy, power, force, mass, and Newton's laws of motion. Others are the result of discovering the practical limits of these conditions, or of Federal Railroad Administration regulations. Let's quickly examine each of these criteria, with an example or two to illustrate how they play out in the real world.

### **SIX MAXIMUM SPEED LIMITS**

**ALIGNMENT:** How sharp are the curves?

**EQUIPMENT:** How much power does it have, what speed is it designed for?

**GRADE:** How steep is the grade, and how long is it?

**TRAIN CONTROL:** What type of signals or controls, how are they spaced?

**CROSSINGS:** Considerations at grade highway crossings

**QUALITY/SAFETY:** Are the tracks, bridges, and/or signal system in good repair?

**ALIGNMENT** is the most obvious limitation, everyone knows that there are maximum safe speeds to drive around curves on highways and the same is true for railway systems. In fact, the design speeds are quite similar: Caltrans plans for a 3000-foot radius as the sharpest freeway curve, good for 70 MPH and

railway curves are very close to this speed on the same curve. Both results are based on "banking" or super-elevating the road or track. Designers use standard tables based upon how much the track is superelevated and what type of equipment is used; the Federal Railroad Administration sets limits on the maximum speed for any combination of curvature and superelevation. Very High Speed Trains, such as those operated in Europe and Japan, have 180 - 220 MPH curves with a radius of about 17,000 feet.

Railroad engineers consider alignment constraints (existing buildings, mountains, etc. and then try to fit in an alignment with the least amount of curvature in order to obtain fast speeds at an acceptable cost. If these constraints result in too slow an alignment they may have to resort to tunneling under or bridging over obstacles.

**EQUIPMENT** determines the physical limit of maximum speed on straight track. Train speed is a function of the amount of horsepower available, the gear ratios for the driving motors, the suspension system, the braking system, and aerodynamics.

Weight, especially "unsprung" weight (e.g. axle-mounted traction motors), is the enemy of high speed on railroad lines. It takes a lot of horsepower to accelerate trains, climb grades, and to attain high speed. The maximum horsepower for diesel locomotives is about 4000 HP; electric locomotives can be twice as powerful.

Some passenger equipment is able to tilt in curves to make it ride as if there were more "banking" or superelevation in the track, perhaps like a bicycle "leans" into a curve. The FRA can waive the curve speed limitations after sufficient tests of tilting trains demonstrate the safety of these higher speeds, as for the Cascade and Acela equipment.

GRADE affects both the maximum speed a train of a given weight and horsepower can climb and how fast it may safely descend. Weight is the enemy of speed on grades too; it takes enormous amounts of power to achieve even modest speeds (e.g. 3000 HP locomotives with five commuter cars can not quite sustain 60 MPH up a 2% grade).

Descending grades cause long stopping distances and force the brakes to absorb tremendous amounts of energy. These stopping distances require long distances between signals and require following trains to be spaced back many miles.

Railroad designers must select their best compromise between grade and distance in mountain territory after considering the horsepower available, the speed desired, and the amount of land and cash available for the line.

TRAIN CONTROL is the system of wayside signals and (in some cases) on-board controls. The FRA limits the maximum speed of trains to 79 MPH with traditional wayside (e.g. red-yellow-green) block signals. To go faster some approved type of positive train control that can stop a train if it attempts to pass a restrictive signal is required.

Conventional block signals are spaced far enough apart so that a train traveling at maximum speed can come to a full stop after seeing approach indications (e.g. yellow or flashing yellow aspects) and before reaching a stop indication (red aspect). Because passenger trains can stop in shorter distances than freight trains, many segments of the railroad will have a higher speed for passenger trains than for freights, and may have faster speeds uphill than downhill, again because the stopping distances are longer going downhill.


Traditional positive train control relies on wayside transmitters and antennae on trains; all trains must be equipped with these devices. The Santa Fe Railway equipped portions of

their line with Automatic Train Stop (ATS) that permits passenger trains to operate at 90 MPH (once 100 MPH) in Southern California; this is still used between Santa Ana and San Diego. ATS has several limitations and is unlikely to be implemented in new territories.

Recent developments that incorporate digital wireless communication, GPS location, and sophisticated central office and on-board software may both improve train performance and reduce train control cost.

GRADE CROSSINGS must be considered in deciding train speed. Signal circuits must be designed to provide adequate warning time for trains approaching at varying speeds up to the maximum on that line of track. Some road crossings in the US Midwest have test trains operating at 110 MPH over rural public crossing.

The best design is to completely grade separate crossings to avoid conflicts with street traffic and exposure to pedestrian and vehicle collisions. In some congested areas municipalities and railroads have agreed to lower train speeds (however there is little or no correlation between accident frequency or severity and train speed.)

QUALITY/SAFETY: The speed of trains has to be reduced during times of rehabilitation of the track, bridges, or signals, or when unusual conditions (e.g. extreme weather or maintenance defects) may exist. If adequate maintenance is not performed on the infrastructure the track may no longer meet ride quality or FRA track safety conditions and a "slow order" temporary speed reduction is imposed. Railroad planners and managers must continually monitor the condition of the infrastructure and plan for (and fund) life cycle replacement of components before they deteriorate to the point of compromising safety or speed. 

# TRANSIT UPDATES

## Antelope Valley Transit Authority (AVTA)

Changes effective 8/25/07:

- 1 - extended to Avenue I
  - 2 - continues south on 40<sup>th</sup> St. E. to Ave. S
  - 3 - continues east on Ave. R to 47<sup>th</sup> St. East
  - 4 - eliminate deviation; add school tripper
  - 6 - use smaller buses; add a school tripper
  - 9 - reduce to 120-minute headways
- Lake Los Angeles Express - coordinate schedule to match times for Perris school

## Gold Coast Transit

Changed its name from South Coast Area Transit on 7/1/07. They wanted a new look to go with the new buses they have acquired in the past year, and wanted a more unique name (they had counted at least a dozen agencies using "SCAT", including South County Area Transit, right up the road in San Luis Obispo County). Website is now <http://www.goldcoasttransit.org>.



## Los Angeles Dep't of Transportation

Effective 7/20/07, per Phil Aker at LADOT:

DASH Route C - northernmost stop now eastbound 7<sup>th</sup> St./farside Flower; bi-directional on Hope St. between 7<sup>th</sup> and 11<sup>th</sup> Sts. Changes made to serve new housing and supermarket in Hope & 9<sup>th</sup> St. area. Will remain weekdays-only, every 10 minutes AM, lunch, and PM peaks and every 20 minutes off-peak.

DASH Route DD (Downtown Discovery) weekend service now operates bi-directional on Hope St. between 7<sup>th</sup> and 11<sup>th</sup> Sts., with the southern turnaround loop moved to 11<sup>th</sup>, Flower, 12<sup>th</sup>, and Hope.

## Metrolink

New weekday schedules for all but the Riverside and San Bernardino lines will be issued, effective 9/4/07. Included will be service to the new Buena Park station on the OC and 91 lines. New weekend schedules will take effect on the following lines, from 9/8/07: Saturday and Sunday trips will be added to Antelope Valley and Orange County lines, and additional Sunday round-trip added to the San Bernardino line.

## Norwalk Transit

Effective 6/24/07, the former Whittier Transit routes 1 and 2 were converted to Norwalk routes 6 and 7, and MTA's Line 275 was added to Norwalk's existing Route 8.

## Omnitrans

Per Hank Fung: In addition to proposed changes listed in July *Transit Advocate*, the Ontario Transfer Center would be closed. "The location, next to a gated parking lot for the La Verne Law School and across the street from single family homes, was a pretty bad location for a transit center anyway. Instead, all transfers will be made at Holt and Euclid, where they are razing some of the buildings to widen the roadway and build some turnouts for buses to lay over."

## Santa Monica Big Blue Bus

New day pass. Cost is \$2.50 for regular service, \$3.50 for express service, and \$1.25 for students, seniors, disabled and Medicare. Debuting soon: New "Mini Blue" routes: Crosstown - 14th/Pearl to 18th/Ocean Park, Mon-Fri 7:00 AM to 10:00 PM (to 6:00 Fri.) Downtown Market - 4th/Arizona to 7th/San Vicente, Weds & Sat 8:30 AM to 1:30 PM Pico Market - 14th/Ocean Park to 23rd/Colorado, Sat 8:00 AM to 1:30 PM Tide - existing route, Marine/Neilson to Wilshire/7th, Daily Noon to 8:00 PM (to 10:00 Fri & Sat) 🚗