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Regional Coordination of Projects

PATH Study Lays Out Strategy to Build the California Architecture

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For nearly a decade, federal transportation policy has focused on encouraging transportation agencies to use advanced sensing, communications, and information technologies—the so-called Intelligent Transportation System (ITS) products—to create integrated multi-modal transportation networks. With the passage of the Intermodal Surface Transportation Efficiency Act in 1991, the US Department of Transportation (DOT) stopped promoting construction of new highway and rail capacity as the first choice for solving local transportation problems. Rather, it emphasized that "intelligence" should be used to maximize the capacity of the existing system before building new segments of the network.

Better communications and better information, it is thought, will improve the safety and efficiency of overall system operation by applying more rational (i.e., information rich) control mechanisms at choke points and by giving people better access to existing but under-utilized, cross-modal and cross-jurisdictional connections. This policy of intelligence first, construction second represents a significant paradigm shift for most transportation planners and engineers. It is a shift, however, that is still in process. Significant challenges must be overcome before California will experience the kind of system-wide reduction in traffic congestion that integrated applications of intelligence are expected to achieve, but it is expected that ultimately this new focus will be of great benefit to all stakeholders and partners involved with components of the transportation network.

Many isolated technology-based projects, of course, are being planned or implemented. Of these, the Southern Priority Corridor Showcase Project, the Bay Area's TravInfo, and Caltrans Transportation Management Center (TMC) network are the largest and most visible. Other smaller "demonstrations" also offer hints of what might be achieved. However no truly region-wide, cross-jurisdictional, cross-modal application of new technologies exists yet in California.

So, how can we get from where we are today—multiple isolated projects—to where we'd like to be tomorrow—a regionally integrated transportation network? Conceptually, the answer may appear to be simple- get coordinated. But in practice, coordinating local projects for seamless operations is tough. California's complex transportation system is a dynamic system of diverse systems, composed of often-inconsistent legacy policies, technologies, procedures, and even cultures.

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Bicycle Boulevards

A bikeway type attractive to all types of cyclists, with neighborhood traffic benefits

By John Ciccarelli

Bicycling for everyday transportation is increasing as cities and counties implement bicycle plans, trains and buses accommodate bikes aboard, and "traffic calming" limits neighborhood speeds and cut-through traffic. California professionals who design bicycle route networks are familiar with the Caltrans Highway Design Manual's bikeway types: mixed use off-street paths ("Class I"), striped on-street bike lanes ("Class II"), and unstriped signed routes ("Class III"). However, because experienced cyclists seek fast direct routes with little regard for volume while casual cyclists favor quieter streets, providing routes attractive to both groups can be challenging. One solution is the Bicycle Boulevard, a package of changes that transforms a residential street into a "bike expressway" which accommodates local motor traffic.

"Best of Both Worlds"?

Bicycle advocates often disagree over bicycle facilities. Others who feel that the absence of cars, and bike lane buffs say the stripe makes them feel safe from passing cars. A third group, who feel that unstriped wide outside lanes are safer argue that sidepaths attract walkers, joggers, and dog owners, and create dangerous intersections at cross streets. They point out that unswept bike lanes accumulate glass and gravel fragments because no passing cars go through to disperse them, and that the stripe makes novices stay too far to the right, inviting dangerous right-turn cutoffs by motorists.

Boulevards provide many advantages of paths and bike lanes without their disadvantages. Their low vehicle volumes and infrequent stops attract all categories of cyclists. Low vehicle volumes enable cars to pass safely using the full street width, with no need for the separation provided by a bike lane stripe. Because cars use the same street space as bicycles, they sweep debris toward the curb. Boulevards, being ordinary streets with sidewalks, have no dangerous path/street intersections or "wheels vs. heels" conflicts.

> ***"A Bicycle Boulevard transforms an ordinary residential street into a "bike expressway" that accommodates local motor traffic while deterring through motor traffic."***

Furthermore, Boulevards can be relatively inexpensive, especially compared to acquiring right-of-way for a sidepath or bike lane. Where such acquisition is impossible, Boulevards may be the only way to provide facilities for cyclists who prefer to avoid high volumes of auto traffic. Portland, Oregon has several Boulevards and is planning more, and seven are planned in Berkeley.

Five Steps Create a Boulevard

1) Identify a suitable street.
The ideal Boulevard candidate is a two-lane street serving the same origins and destinations as one or more nearby parallel arterials or collectors. The parallel streets provide access for through motor traffic that the Boulevard will exclude or discourage.

2) Remove barriers and detours to through cycling.
Where waterways, railways, or limited-access highways sever the route, close the gaps with bicycle/pedestrian bridges or undercrossings, creating a through bicycle route that is not a through motor traffic route. Where the gap is a major street without a signal on the Boulevard, forcing cyclists to zigzag to a parallel street to cross safely, install a bike-actuated signal coordinated with adjacent signals to reduce major street motor traffic delays, adding islands and curbs to block through motor traffic on the boulevard.

3) Turn the stop signs.
Every stop sign costs a cyclist time and energy, and one of a Boulevard's major advantages is that it provides nonstop cycling. To enable this, install stop signs on all cross streets and remove them on the Boulevard, retaining four-way stops only at the busiest cross-streets. To help drivers adapt, add temporary "Cross Traffic Does Not Stop" warnings below cross-street stop signs. Consider keeping some of these indefinitely on cross streets with substantially more car traffic than the Boulevard.

4) Block or deter through motor traffic.
While stop sign changes alone will attract undesirable through motor traffic, the Boulevard must be kept open to local residents. Through traffic can be further discouraged by

Photographs by John Ciccarelli

breaking up long segments with bike permeable street closures and mandatory turns that admit through bicycles.

5) *Sign the route and provide additional guidance:* Boulevards are Class III facilities, which customarily have "Bike Route" signs. Palo Alto uses "Bike Boulevard" instead. By themselves, such signs provide little useful information to cyclists, so enhance them with destination plates (example: "To Downtown") and directional arrows. Help cyclists find the Boulevard by placing signs on parallel motor routes.

Palo Alto's Example

The original Bike Boulevard, Palo Alto's Bryant Street, was created using the steps listed above. Bryant is an ordinary two-lane street about four miles long, residential in character except for several signalized downtown blocks, with parallel parking and sidewalks on both sides. Nearby parallel streets are preferred by through motor traffic. Bryant spans a creek with bridges for cyclists and pedestrians only, and has another such bridge at its north end. Its remaining long stretches feature two bike-permeable street closures—each formed by a center bollard flanked by pairs of landscaped islands, a traffic-calming circle, and mandatory right turns for cars at a new bike-actuated signal on a major arterial. This signal, Bryant's most expensive feature, removed the need for cyclists to detour to an adjacent signalized street and is coordinated with that adjacent signal to minimize major-street delays. Frequent "Bike Boulevard" signs with destination and arrow plates direct users to downtown and adjacent cities. Bryant attracts bike commuters who cycle for miles at full speed, residents who bike to downtown attractions, and kids headed for schools or activities.

A Bike Boulevard for Your City

To see if your city could create a Bike Boulevard, identify a low-traffic street serving useful destinations, perhaps already interrupted by streams or other barriers. If parallel motor traffic through routes exist, you have a candidate. Involving affected residents, design traffic calming to break up remaining long segments. Plan for guide signs and stop sign changes. Then implement your plan and watch your city enjoy direct and pleasant recreational and utility cycling.

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