

**Transport of Delight —
The Mythical Conception of Rail Transit in Los Angeles**

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ABSTRACT:— The imposition of organizing and simplifying structures is basic to understanding. Myths tacitly provide an alluring simplification. Telling simple but powerful stories, they point to specific cures. Those cures depend for success on the often invisible assumptions inherent in the myth. But those assumptions can steer the way to bad planning decisions which fail to provide the hoped-for benefits. Myths are constructed by symbolic processes: the images, symbols, and metaphors that are part of our everyday lives, and which provide compelling messages on what is good and bad in our world. Following a brief assessment of the rail passenger system planned and under construction for Los Angeles and an outline of the research approach employed here, this paper examines the myth-building symbolic processes at work in transportation planning in Los Angeles, summarizing part of a recently completed doctoral dissertation. Thus it will be explained why a new rail passenger system — which makes poor use of scarce resources — has almost unanimous support in Los Angeles. The implications for planning will be considered: we need a type of psychotherapy to make us aware and critical of both our myths and our approaches to evaluation and problem solving.

Why has Los Angeles committed the lion's share of transit dollars to building a rail transit system which economic analysis shows to be a wasteful use of scarce resources? This paper summarizes a study (Richmond, 1991) of the consequences and causes of a failure of thought. We all too easily put bad decision making down to "poor analysis" — for which more careful studies and advanced techniques are the remedies. It's common, also, to blame the pushing and shoving of "politics" for bad decisions allegedly made to satisfy narrow but powerful interests. But, suppose the real explanation for decisions which to the analytical mind appear strange lies in the way the mind perceived, simplifies, and acts on complex phenomena? That is what will be investigated here.

The background and initial performance of the rail system under study is first briefly examined. After an introduction to the means of explanation and proof in use in this study, a theory of myth is developed and applied to see how well it explains the popularity of rail transit in Los Angeles. A series of images, symbols, and metaphors are shown to come together coherently to create myth, providing alluringly simple — if misleading — explanations of what's wrong and what needs to be done to fix things. While most examples are only briefly extracted from Richmond (1991 — to be published as Richmond, 1996), the example of the "Balance Metaphor" is described in

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detail to demonstrate the system of interpretation and standards of proof in use. The conclusion and implications for change are then presented: if the tacit assumptions of mythology are clouding our vision, we must find ways to surface, criticize, and move beyond them.

While the work from which this is abstracted also details problems of forecasting and the understandings and behavior of technical analysts, this material is not included here; it may be found in summary form in Richmond (1990a).

The Displacement of Rail

Los Angeles once had the largest interurban streetcar network in the United States. Henry Huntington — more concerned with real estate development than with transportation improvement — was the guiding force behind its creation. His Pacific Electric “Red Cars” bred the far-flung low-density urban form of Los Angeles, but were ultimately eclipsed by the arrival of the automobile.

Despite a popular misconception that the Red Cars were swept out of existence by a conspiracy of “rubber” interests (see Snell, 1974), the evidence shows that they were quite naturally displaced by an automotive technology which better served the public desire for freedom of movement (Bail, 1984, Fogelson, 1967, Jones, 1985). Even before 1920, rising labor and maintenance costs joined declining ridership in putting financial pressures on the Pacific Electric (Veysey, 1953, p.9), and the problems worsened as automobile ownership climbed.

The automobile catalysed structural changes in both development patterns and travel behavior. It permitted development in areas away from the tracks, particularly in previously isolated areas where the expense of rail service could not be justified. It also took the focus of travel away from downtown Los Angeles — the hub of the Red Car system — providing what Hilton (1967, p. 380) describes as a “lateral mobility, and an opportunity for point-to-point travel which the electric railway had denied them.”

Bus travel also became more popular. Buses offered more flexibility in routing than streetcars and could be operated at less cost. A number of “de luxe” bus services were also developed to attract those who had abandoned the streetcar for the automobile (Stauffer, 1930). The ability of buses to provide direct service without the transferring between vehicles often needed on streetcar journeys helped make them attractive (Stocks, 1930).

Following wartime increases to traffic, Red Car patronage fell off and losses mounted. Unable to bear these, Pacific Electric filed for a sweeping series of abandonments in March, 1949. They were almost all approved by the California Railroad Commission. The Long Beach line was the last of the Pacific Electrics to go, ceasing operations on April 8, 1961. As Brodsky (1981, p. 95) notes: “It required no conspiracy to destroy the electric railways; it would, however, have required a conspiracy to save them.”

The Return of the Rails

Several previous attempts to fund rail projects in Los Angeles had failed. But in 1980 Los Angeles County voters approved Proposition A, a measure to lower the bus fare from 85¢ to 50¢ for three years, provide transportation funds for the discretionary

use of local administrators and — most importantly — build a countywide system of rail rapid transit lines. Standing in front of a preserved “Red Car,” Los Angeles County Supervisor Kenneth Hahn spoke at a 1981 press conference. “Now we need light rail transportation,” he said. “It’s a priority for the nation, let alone for Los Angeles. Just travel the freeways; see the jammed bumper-to-bumper freeways.”

Only 54 percent of voters had been in favor of the proposition and its half-cent sales tax increase, and delays resulted over the legal question of whether a two-thirds majority vote was required. But, on July 1, 1982 — amidst much fanfare — bus fares came down and sales tax went up.

In July, 1985, bus fares returned to their former levels. The Los Angeles County Transportation Commission (LACTC) — sponsor of Proposition A — now found themselves preoccupied with implementing their “pledge” to provide rail transit for county residents. They had by then selected a light rail approach, and had decided to proceed first with a line between downtown Los Angeles and Long Beach, the route of the last of the Red Car interurban streetcars to pass out of existence. The line was opened on July 14, 1990. It has been operated since April 1, 1993 by the Los Angeles County Metropolitan Transportation Authority (MTA) which replaced the former LACTC and Southern California Rapid Transit District (SCRTD).

While we will see below that many claim that light rail provides a faster and more comfortable as well as lower-cost alternative to buses and cars which will enhance mobility while taking traffic off the roads and improving the environment, the evidence is that it can achieve none of these goals in Los Angeles. Light rail is ill-suited to the travel needs of the Southland, will attract few drivers out of their cars and will consume more subsidy money than more appropriate and efficient bus options.

Rail transit plays an important role in many East Coast American cities because there are well-defined intense demands for travel between concentrated foci of employment and their surrounding suburbs. A relatively small number of high-capacity rail lines can effectively serve the needs of many commuters.

In contrast, the low density and widespread distribution of both population and economic activity in Southern California generates a dispersed and complex pattern of transportation demands among a myriad of origins and destinations. This calls for service more similar to a telephone network (which connects anywhere to everywhere) than to rigid linear-based public transportation; this does not augur well for rail “solutions.”

As Dyckman (1976) points out, “mean access time to the rail line is functionally related to the concentration or dispersion of people and activities.” The dispersed, non-centralized, patterns of Los Angeles make the time needed to get to and from rail services disproportionately high, rendering rail unattractive. Empirical research (summarized in Wachs, 1976 and 1991, for example) has shown that people do not decide how to travel merely on the basis of total journey time but put extra weight on time they must spend walking or waiting. A rail system requires more transferring, waiting and walking on average than a bus network: buses can provide direct service between a larger range of points than can fixed-track trains.

Prior to the arrival of light rail, a grid of bus services had been developed along parallel streets in South Central Los Angeles, terminating in downtown Los Angeles.

Direct bus service to downtown was thereby provided for a widely-dispersed set of origins. To use light rail instead, passengers living away from the rail route must take a crosstown bus to the rail station, rather than traveling directly. It is especially in the low-income districts of South Central Los Angeles and Compton that the bus is more suited than the train to serving the widely-dispersed range of mostly short-distance local trips that are a part and parcel of everyday life.

Research consistently shows that the comfort of a trip is not a prime determinant of the mode of travel to be chosen for making it. The travel time, frequency of service and cost of a trip are more important (McFadden, 1974; Miller and Goodman, 1972; Maritz Marketing Research, 1989). The fact that a train is luxurious will not therefore in itself guarantee ridership if it cannot efficiently serve the types of trips most people need to make. Such is the case in Los Angeles.

Innovative bus systems have already shown an ability to attract large numbers of passengers. While the Shirley Highway express bus service in Washington, DC (see Miller and Goodman, 1972) and the El Monte busway in Los Angeles (see Crain, 1974) have achieved noteworthy results, the most dramatic results from bus service development have been in Ottawa: a combination of new facilities and new operating practices led to increases in total transit ridership from 37.5 million passengers in 1972 to 87.2 million in 1984. Because trains stop at all stations between Long Beach and downtown Los Angeles, the end-to-end travel time is actually longer than it was on the now-terminated 456 freeway express bus service, underlining the ability of buses to provide high-quality services for specific needs.

The Long Beach light rail service was forecast to carry 54,700 weekday daily passengers in the year 2000 (SCAG, 1984). This was scaled back to 35,000 weekday daily passengers by the end of the first year of operation. Ridership had reached 31,000 average weekday passengers by March, 1991, and averaged 36,610 in fiscal year 1994. The MTA's FY '96 budget estimates an annual ridership of 10.7 million passengers, which translates to 33,300 per average weekday. By comparison, pre-existing local Long Beach - Los Angeles bus line 60 was carrying 31,801 daily weekday passengers at the time Blue Line service opened, while other — parallel — bus services also carried substantial loads.

There is no evidence that rail service will reduce highway congestion in Los Angeles. Even given attainment of full projected ridership, Southern California Association of Governments (1984) reached the conclusion that: "From a county-level or even a corridor-level, the LB/LA LRT project has only a very minor positive impact on traffic." Nor, SCAG declared, will the system contribute meaningfully to reductions in pollution or energy use. Light rail can only accommodate an insignificant proportion of highway traffic. A November 1990 on-board study found, furthermore, that only 21 percent of Blue Line passengers had previously driven, while 63 percent had taken the bus.

While it can be argued that more dramatic benefits will be felt once a comprehensive light rail system is in place, SCAG's studies say that light rail travel would be predominantly short-distance; it is unlikely that many people would make lengthy trips across the county, transferring from one light rail vehicle to another.

The Long Beach light rail line passes through the depressed communities of Compton and Watts. While it is claimed that it will bring them relief, light rail has

few tangible benefits to offer. The work trips of mid-corridor residents reflect the habits of the region as a whole: they are dispersed, with only 9 percent working in downtown Los Angeles and over one-half working outside the Long Beach corridor (*Los Angeles Times*, October 20, 1985). With the trolley installed, local buses are being reconfigured to meet the needs of the light rail system, rather than those of most passengers using public transportation for whom bus service remains the most logical choice.

Light rail is also expensive to implement, relative to other public transportation options. While the California Department of Transportation (Caltrans) estimated in 1981 that the Long Beach light rail line would cost \$146.6 million to build, the bill as of opening day in 1990 was \$887 million, and change orders have continued to increase the cost since then. According to one (non-published) estimate from the Southern California Rapid Transit District (RTD), \$168 million would be needed to provide the buses and operating facilities to provide a bus service equivalent to the Long Beach light rail line.

While the Final Environmental Impact Statement for the project had estimated that two-thirds of light rail operating and maintenance costs would be recovered from fares, the Blue Line Long Beach service only covered 11.6% of these costs from fares during the first fiscal year of operation and 13.4% for the 1994 fiscal year. Bus operations covered 31.6% of costs in the 1994 fiscal year.

More fundamentally disturbing are the opportunity costs of operating rail. Rubin (1990) examined the total life-cycle (capital and operating) costs of providing transit services by light rail as against by bus, and found that for the same cost "buses would produce over four and a half times as many passenger miles and over nine times as many passengers." It may be noted, furthermore, that when the bus fare reduction supported by Proposition A ended in July, 1985, and the funds formerly used to support it went to light rail construction instead, bus patronage fell dramatically: down 46.8 million annual passengers in just one year. This is more than twice the number of annual passengers to be expected on the Long Beach light rail under the most optimistic assumptions.

It can be concluded that light rail can only provide a service unmatched to the travel needs of Los Angeles County, and at a far higher subsidy than would be incurred by reducing bus fares and/or developing bus services instead. With few cars taken off the roads, there can be no significant environmental benefits, either.

To many critics (myself included) the revival of streetcars in Los Angeles constitutes an attempt to turn back the clock which cannot work because of the fundamental shifts in automotive mobility and urban form. As John Kain of Harvard University said, addressing an Executive Committee meeting of Southern California Association of Governments (SCAG, 1983): "My overall impression is that your transportation planners are trying to impose a 19th century technology on a 20th or 21st century city."

Kain's view typifies the majority view of the academic profession. At one symposium in Los Angeles (Gordon and Eckert, 1976), for example, where it was concluded that "Rail rapid transit is probably the worst step Los Angeles could take to improve transportation... one remarkable fact should be underscored: the analysis and recommendations as to the form urban transportation policies should take was absolutely unanimous."

We are therefore left with a mystery: why, when it is so wasteful, is Los Angeles County proceeding with massive rail construction plans? Chapter 6 in Richmond (1991) explores the political process which brought light rail about and shows that pressures by certain key actors — notably Supervisor Kenneth Hahn — propelled the program into existence. This leaves open the question of why rail was seen as so desirable in the first place: what attractions did rail have that allowed the Los Angeles County Transportation Commission to rally around it as its principle transportation program? This question is studied below.

Means of Explanation and Proof

The objective of research is to surface the — generally tacit — mechanisms by which decision-makers inform themselves and make decisions. This involves developing and applying a theory to locate such mechanisms, and testing whether these mechanisms do in fact guide decision-making. The theory used here sees comprehension — and consequent actions — as shaped by a mythology which explains the way things are and how they can be made better. The major myth to be investigated is that rail transit can alleviate the transportation problems of Los Angeles.

Much of our everyday life depends on making simple common sense deductions and acting on them without further thought. Common sense actions — shaped from experience and cultural understandings — “seldom need explicit calculation, nor is there any desire to pose sharp logical tests of the comfortable and usually adequate pre-suppositions for action” (Morrison, 1985, p.83). But common sense can lead us astray when extrapolated to new domains. It was common sense, for example, to the Lutheran follower Melanchthon, that the Copernican argument that the earth rotates daily on its own axis and moves annually around a stationary sun was wrong, since “the eyes are witnesses that the heavens revolve in the space of twenty-four hours” [from Melanchthon’s *Initia Doctrinae Physicae*, quoted in White (1896, I, p. 126) and Kuhn (1957 p. 191)]. Such deductions are shown below to lead to similar misconceptions in transportation planning.

It will be argued that symbolic processes play a central role in steering the cognitive knife, providing the basis for the simplification which leads to such deductions. These processes provide a basis for concept formation; for arriving at the understandings which those concepts entail; and for the formation of powerful myths which appear to represent reality.

Symbols, images and metaphors are the products of symbolic processes; they come together to create myth. Symbols are “*vehicles for the conception of objects*” (Langer, 1957, p.60). They act as “*gateways to the larger pattern*” (de Bono, 1969, p.13). Going through one gateway, rather than another introduces the mind to one set of choices, rather than another. As Foss (1949, p.13) states, “*symbolism is founded on the relation of part to whole*” [my emphasis]. Symbolism acts *selectively* to present partial information as if it were complete.

Colonel North, accused of diverting funds from the illegal sale of arms to Iran to benefit the Contras in Nicaragua, turned up to Congressional hearings in full-dress Marine uniform, even though he did not regularly wear the uniform to work. The uniform is a vehicle for the conception of North. It serves as a gateway to a complex of associations of service and patriotism.

Images are the ammunition of symbols. They also act as symbols in themselves. North's uniform is a symbol, but the symbol only has meaning in terms of what it leads us to conceive, which is an image. North's uniform evokes a heroic image, leading to a conception of North as a hero. The symbol produces the image, and the image sells.

While complexity is foreign to us, images come naturally. Images, writes Langer (1957, p.145) are "our readiest instruments for abstracting concepts from the tumbling stream of actual impressions." Though the heroic image which North's uniform engenders reflects but an aspect — and possibly a distorted aspect — of the colonel, it gives a picture of the man as a whole. The image "serves as a proxy for a set of unstated assumptions" (de Neufville, 1981, p.1), obscuring alternatives which "do not usually have the courtesy to parade themselves in rank order on the drill ground of the imagination" (Boulding, 1956, p.84).

Metaphor is an instrument of understanding, specifically "understanding one kind of thing in terms of another" (Lakoff & Johnson, 1980, p.5). According to Schön (1963, p.58-64), the meaning of a concept employed as a metaphor, A, is taken as a program for the exploration of its subject, B. In doing this, expectations from A are transposed to B, "fixing and controlling" the way in which B is understood.

Metaphor performs a clarifying function, naming, fixing and structuring "what might otherwise be vaguely troubling situations" (Schön 1963, p.60). "The movement is usually from a more concrete and readily graspable image "over onto" what is perhaps more vague, more problematic, or more strange" (Peters, 1978). A *generative* metaphor, says Schön (1979, p.264-265) acts to select a few salient features and relations "from what would otherwise be an overwhelmingly complex reality. They give these elements a coherent organization, and they describe what is wrong with the present situation in such a way as to set the direction for its future transformation." Through what Ricoeur (1977, p.252) calls a "heuristic fiction," metaphor presents fiction as reality. Its power to do so lies in its transparency: we are put under the metaphor's spell without even knowing that it has invaded our thinking and — in areas of social policy — such metaphor leaves us with a sense of obviousness as to what we should do.

Testing the Theory

Testing for the presence of the symbols, images and metaphors which make up the myth of rail in Los Angeles was done through an interpretation of an extensive set of interviews, transcripts of political meetings, and material from media sources. A total of 209 interviews were conducted, 103 of them in Los Angeles County, the remainder in other West Coast communities considering or implementing rail transit and in Washington, DC. With a large sample of transportation actors in Los Angeles County interviewed, responses can be taken as highly representative.

A loosely-structured questionnaire was used to guide discussion through key issues, but respondents were allowed to drift off the beaten track to explore their particular interests and perceptions: the important point was to reveal what was uppermost on the interviewees' minds. While structured questionnaires used in more rigid ways — where every respondent is made to answer every one of the same set of questions — may provide a stronger basis for statistical analysis, such approaches risk asking the wrong questions without a basis for correction and often fail to provide

adequate access to the contextual information needed to explore the meanings of the responses given. Allowing people to tell stories provides a basis for studying the coherences which hold those stories together, so revealing the assumptions behind them.

The processes operating under the theories used here are not necessarily “illogical,” except relative to the expectations of analytical reason, but conform to a different type of logic — a logic which both structures each symbol, image, or metaphor and binds them together to create myth. This “logic” provides the key to evaluating the interviews. Evaluation requires a form of literary criticism, in which validity depends on the functioning of a “logic” according to the rules of the theory under test. To test if a symbol is structuring understanding we first need a theory of the meaning inherent in the symbol, and to then establish if those meanings are structuring understanding in the texts.

The programming function of a metaphor serves as its “logical” apparatus. To establish the operation of metaphor A, we need to prove that it is acting as a model of our understanding of B. How is B A-like, we should ask? What is the “heuristic fiction” that is wedding B to A? How is it performing a clarifying function? Are abstract ideas being conceived in concrete terms, and are those terms generated by A?

Evaluation requires charting out the assumptions, expectations and “associated commonplaces” (Black, 1962, p.40) of A to see if they are being mapped uncritically onto B. The presence or absence of a coherent pattern in this mapping function is established to test if the metaphor is structuring understanding on a “deep” level, rather than merely making itself evident in surface language. When, to give one simple example, we say that the king’s anger “flared up,” related aspects of flaring help explain what the king’s anger did. Flaring implies a sudden, uncontrolled eruption. It is a flame which does the flaring. Flames are hot and — when out-of-control — dangerous. When the king’s anger “flares up,” we fear the consequences of his hot temper; if we get in the way of it, we are likely to be burned. These associations come together coherently to provide a “logic” which structures understanding.

Once the internal logic of each symbol, image or metaphor is established, a similar process takes place at the mythical meta-level in which it is the logic by which the set of these processes come together which is tested. Does it make sense for a particular symbol to give rise to a particular image, and does that image help shape the way a particular metaphorical understanding takes place? Does the system of symbols, images, and metaphors come together coherently to build myth?

The Image of the Train

Experience informs us about the world we inhabit and generates images of how we would like to live in the future. Experience is powerful because it presents the evidence of our bodily senses. We see traffic locked in congestion; we thrill to the acceleration of a fast train; we smell the fumes of a bus. Because we get close to these technologies, they become objects of emotional attachment — and hatred — and are desired or spurned with the logic of a mythical world with its special set of rules.

The experience of existing rail systems solidifies the case for rail in LA in the minds of decision-makers. “I see how well it works in Europe,” said one Los Angeles County Supervisor’s aide. Jacki Bacharach, LACTC Chair at the time, said that a primary source of information for her was “experience in traveling in Los Angeles and in

other cities... Why are people putting in rail all over the United States? Why isn't bus the answer everywhere else?" "Why?" Bacharach was asked. "Because people are riding it. It's being used." The fact that trains are seen being used suggests that they are of themselves popular and that they will be equally popular wherever they are operating.

Alternate LACTC Commissioner Roy Donley was impressed by the rail technologies of other cities: "I see subways in Paris and London and New York and other cities where the damn train is almost up to full speed before it exits the station," he said. Alternate LACTC Commissioner Bob White was equally impressed by the speed of Canadian trains:

I've seen the people in Canada love the darn thing and those cars fill up, and guess what, Jonathan, when the light rail comes up and stops would you believe, in 30 seconds I think it is, maybe not even that long, they open the doors and you can get on any car and in 30 seconds they're ready to take off. And they don't mess around and take all day to move their train.

White feels that Southern Californian commuters would be equally impressed: "And once they ride it, they will see how smooth that it operates, like they did in Canada and I think that it would go." White ignores questions of whether the system would be convenient to use given the crisscrossing origins and destinations of trips Angelenos actually make. The complete impression the partial image of speed and "smoothness" delivers misleads.

Buses, in contrast, have negative images, despite their proven ability to be attractive to large volumes of commuters when they provide efficiently for the trips people need to make. Buses, said LACTC Commissioner Marcia Mednick, are seen as being "noisy and dirty and slow." Former Los Angeles County Supervisor Baxter Ward, at the center of campaigns during the 1970s to bring rail to Los Angeles, put it more strongly:

People don't like buses. People just hate buses. They have to sit in the damned sun and they got to sit and take all the fumes from the cars and the diesel Mercedes, and the diesel buses that aren't theirs, and wait until their bus comes along, get in, crowd, lurch, be abused by the operator, and just drag red light to red light or whatever the situation is, until they finally get to their destination.

Buses need not be that way (see Bonsall, 1985, Wachs, 1976); but such is their popular image.

The power of images of buses and trains could not be overcome, furthermore, by presenting the results of analytical research. Interviewees tended to reject findings which failed to confirm prior beliefs. Many of those who supported light rail were quick to dismiss SCAG's negative assessment of the environmental benefits expected to flow from the Long Beach light rail project, for example. Debby George of the office of County Supervisor Deane Dana was told that SCAG was forecasting that only 1600 people a day would transfer from automobile to light rail:

Only 1600? Where did they get those figures? I think it's much more than that. It has to be much more than that... I would challenge if that is right, personally.

The reaction of LACTC Rail Construction Committee Member, Allan Jonas: "I don't believe it." And, when Long Beach Mayor Ernie Kell was told that SCAG only expected a minor improvement in traffic as a result of light rail, he said:

I would take exception to that. #1, if you take a bus off the freeway, you're removing a vehicle, a good sized vehicle at that. So you're taking traffic off of that, and I think that once this line comes in and people find that they can park their car and ride up and enjoy the paper, and have less traffic to worry about, I think you're going to find more people riding it.

Those cited above have all amassed evidence — albeit evidence of the senses — and used it to reach common sense conclusions about the desirability of buses and trains. The image of a “good sized vehicle” being removed from traffic provides much stronger direct evidence than abstract and distant analytical results. The fact that analytical processes are not engaged does not mean that the imagery lacks logic, furthermore: the imagery provides evidence, and anchors inferential mechanisms in a quite definable and powerful way.

Images of Speed and Metonymical Understandings

The train was generally associated in interviews with images of speed. Respondents tended to focus on only one part of a total journey — the time spent on a train — without discussion of how travelers were to get to and from rail stations, a major problem in a dispersed autopia such as Los Angeles. This is an example of metonymy, a symbolic function in which one entity is used to refer to another related to it and which thereby structures its understanding. In this case a part of a trip is being used to structure the understanding of the whole trip.

Many interviewees favoured trains because of their perceived higher speed and capacity. According to LACTC Commissioner Ted Pierce, rail will make for a quick way of getting out of the congested downtown: “They can just go over and get on a light rail car. I mean, they're — *whoosh* — gone.” With rail, “you can put 300, 400 people in at one shot and just move them out of town... With a rail, you know, unless there's a wreck or a stall, it's straight on through.”

Long Beach light rail Project Manager at the time, Dan Kaufield, confidently declared that his system “will beat the freeway on opening day.” The comparison is strictly between time spent on the train and time spent on the freeway, not between the total journey by road as against the total journey time — including time spent getting to and from stations — when using the train.

Baxter Ward was asked about problems of getting to and from rail stations. Studies (Domencich and McFadden, 1975; Wachs, 1976) had found that people preferred to travel directly where they were going in one vehicle to using means of transportation which required transfers between vehicles, he was told. “I think if you had something that just went *whoosh*, you would recognize that getting out and changing vehicles was no consequence at all,” Ward replied.

If I were on the Ventura Freeway — or you — driving, and you saw a train go by at 65 mph, filled with smiling air-cooled faces, tomorrow you're going to take the train... And I believe that most businessmen would abandon the freeways and use the train because it would be so remarkably fast.

Roy Donley is a critic of light rail; but he also conceptualizes journey time solely in terms of time spent on the principal mode. He wanted a faster system than the light rail:

People, say out in Thousand Oaks or Agoura or Westlake Village could get into

downtown Los Angeles in 15 minutes on a very high-speed train... One reason I favor trains over buses is high speed. If you can get downtown in 15 minutes instead of 45 minutes, that's a big attraction.

The journey descriptions we have seen above have all been couched entirely in terms of time spent on the light rail service. This is a common way to talk about a trip. Someone going from Boston to Los Angeles will say, "I'm flying from Boston to LA," not "I'm driving to the airport, waiting in line at the ticket counter, going to the gate, waiting around there, flying to Los Angeles, getting a rental car and driving to my final destination." If asked how long the trip takes, most people will answer "five hours" — the actual flight time — rather than giving the total time taken to get from their home to their final destination.

The 15 minutes used by Donley to represent a whole trip would, however, only be seen by a traveler of the future as part of a total trip of an hour or longer — if transfers to and from buses are needed. As experience with new rail systems in operation [notably BART: see Webber (1976); Hall (1982, Chapter 5)] has shown, decisions by commuters on what mode to take depend on the total trip: after using a given mode a few times, the real total travel time becomes quite apparent, and is taken into account in deciding whether to travel by rail. The metonymical representation of a trip unfortunately only informs decision makers before the rail systems it leads them to recommend are opened.

Efficiency — The Driver Image

As the *Los Angeles Times* reported (Oct. 20, 1985), "One of the arguments made most often for the rail line is that it will be cheaper to operate because a single driver on a train can carry up to five times as many passengers as a bus."

Baxter Ward confirmed this:

One motorman can carry 700 people on his train and it would take 10 bus drivers to do the same. So, in terms of labor, you're much better off with the rail lines [Shaffer, 1980].

The *Los Angeles Times* topped even this estimate: "A bus can carry only about 70 passengers per driver, while streetcars can be strung together with one operator for 1,100 passengers" (Jul. 6, 1980).

The picture of a train driver propelling far more people along than colleagues on the buses was one of the most widespread — and to those under its spell — compelling images among those interviewed, in media reports, and in other documentation. While it is true, however, that operator (driver) costs do make up a lower *proportion* of light rail costs than bus operation costs, the cost of drivers is only one of many, while capital-intensive rail systems are burdened with expenses which bus systems do not face. Not only are items like right-of-way, station and fare equipment maintenance costly, but feeder buses to bring passengers to and from rail stations have to be paid for. The cost of these buses must be included when comparing rail operations to the cost of providing direct one-bus bus service. This cost is generally overlooked.

There is a difference, furthermore, between the quality of service of a large (rail) vehicle on a small number of fixed routes and the flexibility of a smaller (bus) vehicle serving a larger number of neighborhoods directly and more frequently.

These invisible and abstract complexities are not readily perceived. They are quite overshadowed by the commanding image of the speeding train efficiently transporting hordes of commuters to work with but one virtuoso driver at the helm.

Technological Sex Symbols on Steel Rails

God, who made the Man

*I hear the whistle sounding,
The moving air I feel;
The train goes by me bounding
O'er throbbing threads of steel.
My mind it doth bewilder
Those wondrous things to scan;
Awed, not by man, the builder,
But God, who made the man.*

Trains are sexy, buses are not.

— Christine Reed, former Commissioner, LACTC

Arnold Pacey (1983) writes about the “virtuosity values” of technology, the enjoyment of:

having mechanical power under one’s control, and of being master of an elemental force. The teenage enthusiasm for motorcycles reflects this. Many farmers, it is said, buy larger tractors than they really need, to the detriment of soil structures, because of the pleasure they get from using such powerful machines... Dennis Gabor talks about “archetypal human desires” which include the wish to communicate at a distance, to travel fast, to fly [p. 84-85].

It is the meanings related to power, virtuosity and sex which the train appears to symbolize which most convincingly seem to focus attention on the technology. The technological power of the train was often equated to sexual potency by those interviewed. A train has both genders: it is referred to as “she” and as a penis. According to then LACTC Commissioner and Mayor of Santa Monica, Christine Reed:

There was an intense amount of institutional ego over the fact that San Diego had *whipped out a trolley system, kabloom, like that*. They just did it. And I mean everybody else was like, oh my God, you know, what an affront that this little city could do that, and here we are — a big county — powerful, two-thirds of the population of the state, blah, blah, blah, and we can’t do this [my emphasis].

The fact that San Diego got their bright red cars in working order before Los Angeles even got off the mark left LA feeling impotent or even castrated. The metaphorical sexual imagery — of penis envy — in this account is unmistakable. When the LACTC (1991) publication *Metro Moves* announced the opening of the Blue Line tunnel into downtown Los Angeles, furthermore, it headlined: “A tunnel just waiting for a train.” A picture of the tunnel was contained within the outline of a heart.

Here's former Supervisor Baxter Ward: "I'm sorry you never saw them. They were stunning. I've got pictures of them. They were knock-outs." Ward was not referring directly to bodies bronzing on Venice Beach but to rail cars. "Ours was *lush*; we had lovely café cars, and smooth not heavyweight — there were fluted sides." Buses are "terrible," Ward said.

But it's *thrilling* to be on a train car in a Pullman at night, or a bedroom, and look outside, you know, at America passing by... The opportunity for riding from Chatsworth to Disneyland on a train far exceeds in excitement and popularity the dismalness of getting on an RTD bus [my emphasis].

Ward was at this point told about a friend in San Francisco who prefers the bus over the train because of the more direct service it provides: "If he wants to ride the bus, let him ride the bus. There are some people who buy brown cars," Ward replied.

Perhaps Ward's most revealing comment, however, was about cars, not trains. "Things aren't as nice as they were," he said:

Cars are not the *big things*. Who the hell cares if you can drive a Honda Civic to the Civic Center? What the hell thrill is that? Nothing. But you can drive an Olds 98 to Civic Center, or a Town Car or a Ferrari or something: **GREAT!!!**

While elsewhere in his interview Ward complains about the pollution caused by traffic, he admits to a preference for exciting, large cars. While he does not advocate getting people to drive larger cars — a demand which would be inconsistent with his image of "car as polluter" — he can promote "exciting" trains without seeing any inconsistency with his professed transportation and environmental priorities. But the way Ward sees the train suggests that its attraction to him is similar to the attraction of a large, stylish car.

LACTC Rail Committee member Manuel Perez, meanwhile, admitted to a "great love for trains... Politically, technically, emotionally and spiritually I'm very committed to the light rail." Rail, he said, is something "you can *relate* to. I don't know how many people get terribly excited about a bus that's running on a freeway." Perez was asked why it was of any significance that he was emotionally or spiritually committed. "Because I *believe* in the system very much," he replied [my emphasis].

Roy Donley claimed that while many other commissioners were members of the light rail religion, he did not "worship at the altar of light rail." His description of the system he did desire, however, suggests that he *is* also a member of the rail religion, if of a different denomination.

Donley's vision is founded in a technological fascination and power that causes him to dream up his own temple to transportation: "These would be high-speed trains, 100, 120 mph, and they would have about a five mile run to gain speed," he said. He called for "high-powered locomotion" to "get up to speed pretty fast." The trains would stop at "megastations" at freeway intersections where they would interface with:

Surface transportation. Now, this will include surface buses, taxicabs, private automobiles with park'n'ride facilities, and also I see this interchange being developed in co-operation with private enterprise with commercial development, possibly even residential, that is hotel-type things, and that sort of thing. And a heliport. People can fly into these things from LAX and other airports.

One senior LACTC staff member agreed that rail technology had a lure all of its

own, but said that:

Human nature is an appropriate basis for planning. And I always say, when was the last time you heard a kid ask for a bus for Christmas? Kids don't ask for buses for Christmas, they ask for trains for Christmas. And we're just older children.

We like to play war games. And when we grow up we fight wars. We like to ride our bicycles. When we grow up we buy motorcycles. We like to do all these kinds of things and then we grow up and do it, so what's wrong with liking to play with trains and then *wanting to ride trains..?* [my emphasis].

I think that trains evoke an appreciation and an image and a sense of fascination and power in our history and in our lives to this day.

This claim is interesting because it legitimizes bringing to life a technology by asserting that people will *ride* trains for reasons of technological virtuosity, not just because they make for the best way of getting to a given final destination. But there is no evidence to substantiate this. People may be fascinated with trains; trains may be objects of fond nostalgia, of sex appeal or of religious worship; but commuters will only use them if they provide the most convenient way to get to work.

Making Social Connections

The Gospel Train is Coming

*The fare is cheap and all can go,
The rich and poor are there,
No second-class on board the train,
No difference in the fare.*

The train is symbolically important in spirituals, representing the way to life, death and redemption: a perfect example of the power of symbolism to cast the abstract in terms of the physical. The symbolism is tied to the train's role in nation building and in taking people apart from each other and bringing them to start out new lives. According to spirituals such as "The Gospel Train is Coming" the train is an egalitarian transport. On the train the whole community will be tied together as one; those with wealth and status will hold no more sway on board than the poor.

Light rail symbolically represents "connection" to the rest of Los Angeles in more than just a transportation sense. The most powerful symbolic imagery came from Walter Tucker, Mayor of the predominantly low-income City of Compton. "We know that the poor people need it [the light rail]," he said:

And we're trying to do everything we can to keep Compton alive and to substitute jobs in the place of dope... We want to do things to make it so that our kids won't be set on drugs... I'm saying that if people don't have jobs, then that creates stagnation and causes problems...

Tucker went to college by Red Car:

If I hadn't had the Red Car, I don't know what — I probably wouldn't have been able to get in and out... This is one of the reasons why they had the Watts Riots; it's because they didn't have transportation in and out to Watts to the hospitals and a lot of things... Everybody can't go to the beach because they don't have a car. Everybody can't go to the cultural events in LA, you know, can't get to the

schools elsewhere... It would definitely serve a purpose, and the right-of-way is in place.

Tucker establishes a causal link between the arrival of the light rail system and the relief of the critical problems Compton now faces. Compton is seen as a locked pressure cooker, social problems expanding as the effects of increasing heat are exacerbated by an inability to get “in and out.” Light rail is seen as an escape valve, even though there is little evidence that the range of desirable social changes with which it is associated would materialize.

It is not only that light rail does not serve the principal employment destinations of the community or residents’ needs for local trips in general; there is no evidence that it can “substitute jobs in the place of dope.” Providing access to opportunities requires more than putting down a rail line. It demands a commitment to the education, security, and dignity of the community, which has yet to be forthcoming. The train offers a symbolic solution, one which has little to offer in reality.

The Addiction Metaphor

To quote from an editorial in Coast Media Newspapers of October 23, 1980: “Dependency on foreign oil must be broken — immediately. One sure way is to finance and construct a rail rapid transit system.” We see here the “addiction” metaphor in operation.

The metaphor suggests that just as when we become addicted to a narcotic drug our body chemistry goes out of balance, an “addiction” to gasoline is causing us to be diseased. Nowhere does this understanding come through more clearly than in TV news reporting for KNXT-TV, Los Angeles. On 21 April, 1980, with talk of another transit proposition in the air, presenter Marcia Brandwynne detailed the problem as follows: “What gas has made us is addicts. We depend on gasoline much like a heroin addict depends on a fix. Now that gas is harder to get and costing more, we are starting withdrawal symptoms.”

The camera focuses on an “addict” to prove the point: “I gotta have it, I use this in my business.”

We quickly home in on another “junkie:” “My gas bill has just gone up tremendously high, you know, seems as though I’m working just for gas.”

And just in case viewers have yet to get the point, we move to a third: “I guess I am hooked on gasoline, because it’s a necessity, I just have to have it.”

In line with treating the problem as one of substance abuse, the TV station calls on a psychiatrist to make an analysis:

What will happen when it’s taken away? It’ll be a shaker-upper. They will be in a sort of transportation shock. I suspect that some people will succumb, they won’t be able to overcome the idea that their movements are constricted.

“Withdrawal symptoms” are talked of as of a human body in shock. Brandwynne now returns to confirm to viewers that: “In Southern California our dependence is staggering.”

The series continued on April 28, when anchor Connie Chung opened by telling viewers that: “Tonight Marcia Brandwynne is here to tell us how we might have

avoided getting hooked.”

The answer, Brandwynne says, lay in the Red Car system (shown in operation for viewers), “a system that flourished in a Los Angeles of yesterday.”

Baxter Ward now appears on screen to declare that: “Life in this County will come to a standstill, economically, socially, recreationally, you know, in all forms, if we don’t have transportation.”

Brandwynne returns to tell us that: “It didn’t have to be this way and here’s the reason: it was the greatest mass transit system in the world, and we had it right here... It was called the Pacific Electric.”

We now pan to Bill Meyers, a rail historian who is seen in the Red Car he owns:

The Pacific Electric was a very efficient system. Even a big car like the one we’re sitting in this afternoon was far more fuel-efficient than any passenger motor vehicle, even a bus, today, but with only 50 people in the car, it’s 26 times more efficient than a modern passenger automobile.

Brandwynne then draws on the “conspiracy theory” which has appeared in popular culture such as the movie “Who Framed Roger Rabbit?”

Who killed Big Red? There’s no easy answer, but it was a slow and painful murder, with many accomplices. In 1949, General Motors was convicted of criminally conspiring to replace electric transportation with diesel buses in 40 American cities, Los Angeles was one of them.

But although GM made hundreds of millions of dollars by this scheme, it was fined the sum of \$5,000, and that didn’t stop them. By 1955, 88% of the nation’s electric streetcar network has been eliminated, and in Los Angeles, all that was left was the red car run to Long Beach, and that died in 1961.

And so the seeds of our addiction to the automobile and to gasoline were born.

And the antidote to the addiction is to bring back rail. As one of the principal rail advocates, former Supervisor Kenneth Hahn, said: “We should set this project [Long Beach light rail] as the number one priority so we can begin to reduce our dependence on the freeways and smog-producing automobiles.”

Although the drug-addiction metaphor provides an easy way to understand a complex problem, it leads those under its influence to faulty conclusions. An addiction is bad, something that healthy individuals don’t succumb to. Few who are not addicted to heroin would see anything favourable about it. The metaphorical understanding puts gasoline consumption and car usage into the same category.

The Snell (1974) Report which accused General Motors of destroying the Red Car system suggests that the car is demon, and that if only we would go back to the good old days — before we became addicted to gas — all would be well. This is a myth, because gas is not an undesirable drug we have been driven to by the elimination of the Red Cars, but the car is a transport of choice.

People stopped using trains because they found road travel offered more convenience and freedom. The car has established patterns of urban living which most people find desirable, and it has developed a dominant hold on transport patterns, one which cannot be reversed by rebuilding rail lines.

The Balance Metaphor

The “structure of balance is one of the key threads that holds our physical existence together as a relatively coherent and meaningful whole,” writes Johnson (1987, p. 74). “Balance, metaphorically interpreted also holds together several aspects of our understanding of our world.”

The meaning of balance, Johnson says, comes from experience of our body. There is a bodily equilibrium. If it is lost, we must regain it. Stomach, bladder, walking — we are not normally aware of these things until they fall out of balance.

Being “out of balance” means “too much” or “not enough,” so that “the normal, healthy organization of forces, processes, and elements is upset” (Johnson, p.75). Our response to the loss of balance is to add or subtract what is necessary to restore it. We know that there is such a thing as a state of equilibrium; that it is attainable; and that it is healthy for us to return to it — whether by eating; urinating; or re-establishing the prior distribution of forces which held our body in place before we stumbled.

Johnson demonstrates that the physical experience of balance translates metaphorically into other realms. We talk of being “emotionally balanced,” for example, and “if too much *weight* is put on one activity or enterprise, to the exclusion of others, the individual is unbalanced.” This reflects not merely how we talk about the effect of our problems, Johnson says, but how we experience them, and so how we conceive of a cure.

Schön’s (1963) account of the metaphorical entailments of a balance scale with two pans provides an interpretative tool for analysing the presence of the balance metaphor in conceptions of transport problems and remedies in Southern California. Schön notes in particular that objects come to the weighing process ready to be weighed:

Objects are brought to the scales. They do not have to be invented in order to be weighed. In a sense, they are given for the weighing process; from the point of view of the weighing they are assumed. The issue is not how they came to be, but how much they weigh in comparison to one another [p.119-120].

In a process where the balance metaphor were operating, we would expect actions “to be treated as given for evaluation. Problems of invention or formulation would be ignored” (p.120). We should therefore see if people were more concerned with deciding whether to take a certain pre-defined action, than with thinking about what actions they might possibly take.

In the course of weighing on a balance scale, objects do not change. So “we would expect a theory of deciding based on a displaced theory of weighing to treat objects of decisions as unchanging” (p.121). The advantages and disadvantages of different given objects might therefore be discussed, but not the possibility of reformulating the objects themselves.

Finally, “because of the very structure of a balance scale, weighing is always a comparison of two things or sets of things” (p.122). We would expect to see an evaluation process operating under this metaphor to perform trade-offs between two opposing options or sets of options. All that is at stake is adding or subtracting particular substances — like filling our stomach or emptying our bladder there is a pre-defined response to the problem which it seems obvious will result in its resolution.

Balancing Roads and Rails

The term “balance” crops up very frequently in the interviews for Richmond (1991) and elsewhere, giving surface evidence of the metaphor operating at a deeper level below. We see politicians of opposing viewpoints in agreement on the need for “balance.” In a letter to the editor of the *Los Angeles Times* (Nov. 5, 1981), the liberal Supervisor Kenneth Hahn said he had recently visited San Diego, whose example he wished to emulate:

By employing San Diego’s can-do attitude we can undo the wrong that was done by narrow industrial interests and bring a balanced transportation system back to Los Angeles.

Mike Lewis, former RTD Board Chair and deputy to former conservative Supervisor Pete Schabarum, meanwhile declared that “Pete’s been an advocate of what he calls “balanced transportation.”” Alternate Commissioner Walter King wants Los Angeles to have the “balanced transportation” of Paris. Richard Stanger of LACTC staff talks of light rail helping to “balance transportation sub-regions.” And, reported the *Los Angeles Times* (Jul. 1, 1984), John C. Cushman III — developer of ARCO Plaza, Crocker Center and other major projects — “argues for a “balanced transportation system,” including road improvements, better bus service in some areas, as well as Metro Rail.”

The concept of a necessary balance between different modes of transportation is not a new one. According to the 1948 report *Rail Rapid Transit — Now!*:

There are three ways to move people daily in a community — by auto, by bus, and by rail. The group is convinced that a combination of all three is necessary. Autos are too expensive for most people. Both autos and buses congest the streets. Rails separated from all other traffic are a *must* when a city becomes as large as Los Angeles and its sister communities [from Foreword, Rapid Transit Action Group, 1948].

In 1966, California state Senator Randolph Collier, known as the “father of the freeways,” came out with a similar sentiment, declaring that:

I want you to know that I support rapid transit as part of an integrated, balanced transportation system — a balance that seems to be lacking at the present time... A natural partnership between rail and rubber waits to be put to work to help solve the enormous problem of moving people in metropolitan areas [cited in Kagan et. al., 1972].

County Supervisor Deane Dana therefore falls naturally in line with these historically-established understandings when he speaks at State Assembly hearings on light rail transit in southern California (California Legislature, 1981):

Until the late 1940s, it [the Pacific Electric] provided our citizens along with our expanding highway network with a good balanced transportation system...

We now have to keep pace with the future and we require a more balanced system. Streets and highways alone cannot provide a reasonable level of service to keep pace with even the most conservative population and development projections in this area [p.96-97].

There seem to be two ideas of balance when it comes to transportation. If a transportation system operates under conditions of free-flow, it is in balance. If it is

overloaded, it falls out of balance. Secondly, if the components of that transportation system — say road and rail — are in the wrong proportions, they are out of balance. The two understandings are connected: if a road system loses its internal balance by being overloaded, that balance can be restored by transferring the load to a new rail system.

The current problem is, indeed, mainly characterized in terms of the *overloading* of the existing road system. It is often referred to in terms of weight. “The traffic right now is *unbearable*,” said Debbie George, aide to Supervisor Deane Dana. “We need something that gets people *off* the roadways,” declared LACTC Commissioner Jackie Bacharach, while Long Beach Mayor Ernie Kell praised light rail because “it’s going to take some of the *load* off of the freeway system.”

If there is an overload on the freeways, at the other end of the balance scale there is too little weight being put on “mass transit” or “rapid transit.” As Jerome Premo, former Executive Director of the County Transportation Commission, saw it:

I think in a historical sense, the tragedy of transportation development in Los Angeles isn’t necessarily the freeways, but how it was an issue of using those old transit right of ways for freeways to the exclusion of transit. So there was a tradition of exclusion in the decision-making process — it was an either/or. I think the expectation in California in the mid-70s was that there could be some thinking about balance.

In Premo’s statement, we see the idea that there are two distinct entities — freeways and transit — to be balanced. But, as we shall see, it is not simply that roads are to be balanced with transit in general, but with *rail* transit in particular. As deputy to Supervisor Kenneth Hahn, Burke Roche, said “buses cause congestion on the streets, and the light rail system we would hope would not.”

Buses must therefore be put on the roads side of the balance scale for weighing — they are a part of the problem: an extra burden which it is up to rail to relieve. As Hahn said in a release of March 24, 1982:

Every other major metropolitan area in the nation and the world has a balanced mix of rubber and rail transit. Only in Los Angeles have we tried to get by with only automobile and bus transportation and for this we have to pay a steep price in pollution, in hour-plus commuting times, and in the necessity for every family to own two cars.

Kenneth Hahn is nonetheless a supporter of the area bus system, so long as it is balanced with rail: “You have to have *two* forms,” he said in an interview:

The rail is not the substitute for the bus, Jonathan. You have to have buses. I’m a strong believer. And you have to have mass transit, too: rail.

Alternate Commissioner Walter King, while defending rail for Southern California, conceded that new articulated buses were being tried out in San Francisco:

But they also have a balance. They have the heavy rail, they have the light rail, and then the buses, and then the electrified.

King evokes a “natural order” (see Hart, 1976, p.59 for the origin of this term) metaphor here, which is both consistent with the balance metaphor and provides additional implications. In King’s mind the bus and the train each have their places in the *natural order* of things. There is a desirable equilibrium balance between them at which

the transportation system as a whole works harmoniously. If this order is disturbed, the system will be knocked out of balance:

I don't want to be limited by cars, I don't want to be limited by bus, I don't want to be limited by rail; I want them all in their place.

As Dan Roberts, of the office of Congressman Mineta (San Jose) said:

The trick is to balance them [different modes] off, a desire to plan that puts each mode where it needs to be.

"It's like an orchestra," said Congressman Jim Bates (San Diego). "You've got the violins, and the trumpets and the horns, the cellos, you know." San Diego Councilman Ed Struiksma also used the musical metaphor, calling for light rail to work "in harmony in an overall system."

Just as we bring items ready to be weighed to a balance scale — and they undergo no change in the process — the discussions above center on balancing off pre-defined technologies; not on changing ways in which those technologies might be used, let alone in considering changes beyond the scope of transportation technology choice or beyond the realm of transportation itself. In calling for a return to balance, there is little talk of innovation which might, for example, have improved the operation of buses, freeways, or both. Interviewees talk of buses and trains as givens, as things which come standardized out of a box to be put into operation. In the same way that you can't make cellos sound like horns, it is thought that you can't give buses the supposed advantages of rail-like characteristics. The train is thereby seen as a necessary part of a "balanced" system, excluding the possibility that rail service might not be appropriate for all cities.

The idea of balance is central to our existence; without it, we could not even stand or walk. If "balance" is associated with good health, it is quite natural to think that for a sick system to be made well again, it must be brought back into balance. The dangers of uncritically applying this understanding to transportation planning emerge when the metaphor is surfaced and we see that such a concept of balanced transportation can be no more than a fiction. The new Los Angeles rail system will probably make no visible difference to road loadings. And, even were it to initially do so, the result would be the attraction of more cars to the higher highway speeds; then a slowing down until the old congestion is regained. While the comforting goal of balance is never achieved, the vast expenditures on the rail system take away opportunities for the more productive use of scarce resources.

The balance metaphor serves a basic function of channeling thought: far from inviting reflective thought, it makes it seem unnecessary by providing a solution of obvious appeal. It enables decision makers to see the remedy to the transportation malaise in Los Angeles merely in terms of adding or subtracting certain given technologies. Although they are at best only reacting to symptoms of the perceived transportation disease, it feels as if they are on to a real cure.

Testing for Coherence

How do we know that the statements presented above are not simply isolated rhetorical devices? They are rhetorical, of course, for we have heard from people with a political case to make. But, what makes such statements vastly more interesting and

indicative of deep underlying beliefs is the set of coherences represented within them: the logic of the symbolic system which enables it to all make sense.

The experience of a rail system whisking you efficiently to your destination in another city collides dramatically with the view of a paralysed road system as you stare out of your car window at congested traffic — in which the “noisy and dirty and slow” buses are also caught. The image of a train of carriages drawn by one driver is similarly powerful when contrasted with the many bus drivers supposedly displaced. The superficial impressions formed by the immediately-experienced technology may be misleading when extrapolated to wider social and economic domains, but provide for the mass of associations that the technology-as-symbol then acts to recall. The imagery not just abbreviates, but it presents its selectively chosen part as a whole.

The elements of symbolism and imagery explored here may derive from diverse experiential sources, yet not only is there overlap in symbolic conceptions, but there is a shared symbolic representation of the train as saviour. The train appears attractive for transportation purposes because it appears to travel at high speeds. The fact that it is speedy, however, also makes it seem thrilling and desirable for reasons related to an enjoyment of technological virtuosity and not transportation benefits. The idea of a train going “*whoosh*” conveys both ideas — the train will get you speedily to your destination and in an exciting way. What could be more desirable than that?

The symbols and images we have observed do not simply exist by themselves, moreover, but are integrated by a set of metaphors/metonymies which shape fundamental understandings of transportation systems and of how — when in disrepair — they should be fixed. The metonymy which misleadingly represents a total trip according to the time spent on the main vehicle alone — ignoring the time needed to get to and from that vehicle — processes images of fast trains and slow buses to tell us that the train is the answer to our problems.

The “addiction metaphor” takes as inputs images of both congested road systems and the apparently free-flowing virtuoso performance of the railroads of yesteryear. It then prescribes a return to the rails as the antidote to the over-reliance on roads which is seen to have brought Los Angeles to its knees.

The images of buses and trains also establish these modes as technologies which are seen as fundamentally different, not substitutable for each other. The imagery fuels the “balance metaphor,” which then determines how the transportation modes represented by the imagery are to be balanced. The two metaphors (only a subset of those reviewed in Richmond, 1991) are also coherent with each other: to be “addicted” to something is to be “out-of-balance.” If we are addicted to roads and cars, then we need to put rail service on the other side of the fulcrum in order to restore balance.

Compton Mayor Tucker’s conception of light rail is founded on similar technological and economic benefits symbolically understood by others. “You can have many more people, everybody knows that, all over the world, with trolleys, with light rail, than you can with bus,” he says. Yet, because he went to college by Red Car and now lives in a disadvantaged community this conception is transported one step further so that rail becomes a means of social not just physical mobility. If others think back to the “good old days” before Angelenos became addicted to gasoline, Tucker sees a time when light rail took people to opportunities — not just places — and its removal as a route to addiction to real drugs. Partly built on and partly overlapping with the

elements of symbolic understanding we have seen above, Tucker's conception — most importantly — meshes coherently with the others to create a compelling shared belief that light rail is desirable.

Conclusion

The Los Angeles – Long Beach Blue Line light rail service is not the result of a calculated, let alone reflective, effort to provide for the transportation needs of Southern California's congested autopolis. It is the creation — under politically felicitous circumstances not discussed here (see Richmond, 1991, Chapter 6) — of a mythology constructed of the symbols, images, and metaphors which rule daily experience and which possess the appearance and power of complete truth. The Blue Line is a transport of delight: a symbol of progress at which all can marvel, whatever the reality of its actual performance in enhancing mobility, alleviating congestion, or reducing pollution.

A study of the elements composing the myth of rail shows why the idea of rail systems developed a great symbolic appeal, one little related to the benefits rail might actually bring. These elements paint bold pictures, drawing clear-cut answers from out of a web of otherwise intolerable complexity: they fulfil the human need for simplicity. The associations mesh together coherently not with the logic of analytical reason, but according to a symbolic logic which draws on our experiences and emotions to create its own far more powerful picture of apparent reality. The logic acts subconsciously and synthetically, putting together impressions, rather than taking apart facts. History and experience paint evocative imagery of the potential of rail to provide benefits, while the metaphorical ways in which understanding takes place provide interpretations of such images which conclude that rail is the best way ahead.

Central to the definition of the transportation problem in Los Angeles and the prescription for its cure, is a focusing on technologies: the “pre-selected” (the term is Alan Altshuler's) possible solutions to problems become the center of attention at the expense of discussion of the problems such “solutions” are supposed to solve. The questions of technology act as proxies for more abstract — and difficult — social and economic questions to which there are no easy answers. Technologies provide a sharply-defined focus of attention, one of simplicity and seeming certainty. Technologies provide a ready source of imagery: they are easy to imagine, and leave concrete — and lasting — impressions. These impressions, operating within the realm of understandings available in the symbolic world where we live, depend upon the assumptions we build for ourselves out of our experiences and history within a particular culture, and lead to solid common sense conceptions of what action should be taken to cure the transportation malaise.

The train — concrete, sexy, transport of intimate memories and powerful ideas — provides a solid basis for political support. Technologies with negative symbolic connotations cannot do that. Neither can complex, abstract ideas that would reformulate the way transportation systems as a whole are organized. The reduction of complex problems to simple ones is a natural function of the mind: not only does it appear to clear away ambiguity, but also to create “solutions” which are attainable. The problems of freeway congestion cannot be eliminated overnight; but a rail system, symbolic of free-flow, can indeed be installed. Rail is also something which can be promised and

delivered within a predictable time-frame. The reformation of life in Watts cannot materialize so fast. Tragically, the rail project becomes a symbol for the solution of deeper problems and one around which political action can be successfully built; but it leaves the deeper problems untouched.

The process we have observed is deeply conservative, and on a number of levels. Despite some of the futuristic images of rail solutions to urban problems, it is far from innovative, in that it reflects technological and other conceptions from the past: rail is a technology of the 19th century, being implanted in a non-central-place city of the twenty-first century. Yet symbols are generally created out of past memories, experiences, and identities, so ideas of the past — with past associations of good and bad — become inappropriately transplanted to the future.

Conceptions of existing systems depend on experience of them today, not on how they might be re-arranged in the future. This failure to explore possible innovations to these systems is intrinsic to the “weighing” that takes place as part of the “balance” metaphor: when objects are weighed they are already in their final form, and the act of weighing does not include consideration of how they might be changed. With powerful impressions of buses causing congestion and providing uncomfortable and unsafe rides, there is little to draw the imagination to the possibility of buses operating on clean fuels or electricity, or to ways of operating them better so that they can provide a more attractive service.

Darker and more deep-rooted is the political conservatism implied by the whole process. By acting only on symptoms of social problems (and not even eliminating those), rather than going to their root causes, the problematic status quo is preserved: the city remains polluted, the freeways congested, the poor uneducated and unemployed, despite any slight extra mobility which might be provided to reach opportunities from which they cannot benefit. Political power remains concentrated among those who have created symbolic solutions which to all everyday appearances represent progress.

In the end, if we follow Churchman’s “systems approach” (see Churchman, 1979, for example) and direct ourselves to broaden our scope to universal problems, we may come to appreciate that compared to the other, more pressing, difficulties of Los Angeles, transportation is hardly the most urgent problem at all: the resources being expended on rail will not only produce virtually no benefits — other than symbolic ones — but would be more effectively spent elsewhere, such as on education or job creation. Yet, our political, budgetary, and mental processes put these problems in separate bubbles (see Richmond, 1990b) protecting us from the complexity of considering them together, and making us all poorer as a result.

Implications for Change

Neither analysis nor reflection leads to the statements of the political decision-makers we have studied. Many arguments do nonetheless appear to be couched in rational economic terms. If a claim is made that trains cost less to operate than buses — based on the observation that high-capacity trains require only one driver — a full account of costs can be used to show that this is not necessarily the case.

Claims on ridership may be tacitly based on high-tech imagery; claims to rail’s power to relieve congestion on a metaphor of an impossible “balance” seemingly

restoring free-flow, but each claim — as stated — depends for verification on a measurement that is the preserve of the analytical world. There is a tension, which may be used to advantage, to show that the decision-makers' claims are quite at odds with the reality of actual performance. The tension is dissipated, however, by the power of myth to lead those under its power to reject "facts" which run counter to the mythology. Verification might be expected in terms of dollars or riders. It is subconsciously supplied, however, by the very symbolic system which fires the claims.

Members of the academic community have long questioned rail solutions for dispersed western cities. In California, Martin Wachs at UCLA, Peter Gordon at USC, and Melvin Webber at UC, Berkeley, for example, have all been vociferous critics, and the majority of their colleagues have been in agreement. Their complaints have almost always been voiced in terms of economic efficiency: quite simply, the patterns of transportation demands in Los Angeles make it a bad candidate for rail. Yet, such criticism has been almost entirely ignored by those making decisions. This study has shown why: decision-makers do not act according to a logic of either conscious analytical or reflective reason, but subconsciously according to their experience in the symbolic world in which they live. Economic analysis — abstract, academic, distant — has only a very limited role to play in such a world, compared to vivid images, meaningful symbols, and the powerful tacit metaphors which guide our everyday life. Showing politicians that their images do not match the "reality" therefore proves to be insufficient. The problem is that the images *constitute* their reality. If we are to exploit the tension between claims made in economic terms and inferences drawn in mythical terms, we therefore need more than analyses and facts. We must surface the subconscious assumptions being made to allow reflection on both how problems are currently framed and on how they should be framed.

If the greatest need is for reflection, such thought must recognize the reality of the symbolic forces which give our perceptions and actions meaning. To win the ears of decision-makers, we have to do more than tell them they are wrong: we have to find a way to enable them to understand how they have formed the conceptions which hold their attention, and to ask themselves whether — in that knowledge — those conceptions are still desirable. Our symbolic world provides our primary, most elemental way of understanding. Living as we do within it, it is hard to escape its boundaries and view it from the outside. We must, however, tackle this problem if we are to make progress in planning.

The most refreshing interview of this study was conducted with a strong rail advocate. After most of the questioning was over, I started talking with him about my theories. I pointed out the nature of the symbolic and metaphorical impressions behind many of the statements he had given me. We had already been talking for two hours, but we continued for over two hours more. The subject was fascinated by the symbolism, if somewhat disturbed that it meshed so well with the claims he had made. As we progressed, economic facts were presented which discounted the alleged benefits of rail. With a growing awareness of the symbolic nature of the understandings previously held, the subject seemed to increasingly feel the tension between his previous views and what the economic data suggested. While at interview's end he was not wholly "converted," the subject (whose honesty I will not betray by naming) had shifted to a substantially more critical view of rail.

Most importantly, then, it follows that we need to instill a process of psychotherapy to bring to the surface the assumptions which constrain our creativity. It is only through being made to realize that we are in a prison that we can be persuaded to attempt escape. It is to be hoped that the account provided here might make for a modest start to such a psychotherapeutic process. As Will Glass-Husain pointed out at my thesis defense, however, another word for psychotherapy — in the sense used here — is “education.” Perhaps the biggest constraint to our creativity is an educational system that focuses on delivering skills at solving bounded problems, rather than instilling an ability to criticize; to go beyond boundaries; and to think for ourselves. If we are to do the latter, we may have to reform our very systems of learning.

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