

A Rational ROW Takings Policy

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ROW Takings in Measure M

All of the projects for expansion of the major freeways in the Measure M Plan include the words “...(generally) constructed within the existing right-of-way” In context this is understood to mean that irrespective of projected 30 year need for as many as three or four more lanes in each direction, only one will be built now, and no more will be built for the next 30 years. Don’t think that our transit oriented OCTA won’t use that interpretation as a claimed mandate to never again take property for freeway expansion. This Measure M is a “*one-last-token-lane-then-no-more-freeways*” solution.

If there were a viable alternative to accommodating the inevitable growth, that might not be so bad.— but there isn’t. The most cost effective transit mode — metrorail — costs the government several hundred times more than freeways for the same capacity. To put that in perspective, if, we were — hypothetically — to devote the entire \$12 billion Measure M proceeds to a Metrolink solution, that would pay for barely 1% of our projected 35,000,000 ps-mi/day capacity shortfall. With the same funding, a concentrated freeway solution would more than meet the full 30 year need.

There simply is no viable alternative to roads and freeways for the heavy loads capacity needs of modern urban areas. Thus the inevitable consequence of a “no-more-freeways” solution is growth control by traffic strangulation. Population and traffic growth vs the static capacity would reach static equilibrium when Orange County traffic becomes so miserable no one else wants to live here. Would you?

Total Benefit Viewpoint

From the viewpoint of overall societal benefit, the decision to take a home for freeway must be understood as a tradeoff between the value of a given home and lot as real estate vs. the value of its lot as freeway right-of-way. A recent OCTA I-405 study provided the data necessary to evaluate that tradeoff. Comparing two studied alternatives, the more extensive would take 94 more homes but would afford 110 million person-hours per year greater travel-time savings; so there is the tradeoff. As you probably know, the lesser alternative was approved.

The total value of those 94 homes is estimated well under \$47 million. for comparison, the present value of that annual series of time savings is about \$38 billion, an 800:1 value ratio¹!

If we had offered each of the homeowners four times the value of their homes, the vast majority would be delighted to accept, we could build that maximal time

savings alternative, and the Orange county economy would be \$36 billion richer¹..

In this light, the choice of the lesser alternative may be seen as a \$36 billion mistake

Broader Application

That's just on the I-405. The situation is or soon will be similar on the I-5, SR-55, SR-57, and SR-91. So we can multiply that \$36 Billion by a factor of about five giving \$180 billion as a rough estimate of the impact of this tacit "no takings for freeways" policy on the Orange County economy. That's approaching the entire present assessed value of the County.

Conclusions and Recommendations

1. OCTA should do —and disseminate — a more thorough analysis of the time savings values, (\$) for all the major county freeways, using the traffic modeling tools that are available only to them.
2. The calculation and dissemination of present dollar value of congestion time delay should become a routine part of planning calculations for every major transportation alternatives study.
- 3 Land converted from residential to freeway right-of-way use enjoys a vast (two to three orders of magnitude) increase in value. If we really want to solve the increasing economic burden of congestion on the county economy, we must seriously consider and find alternatives to the present policy of condemning and taking homes at their residential value. We must find fair means of sharing that vast increase in value between adversely affected residence owners and Orange County travelers.

Appendix

Value Estimation Details

The economic analysis, essentially reducing the value of the two elements, homes and travel- time savings to commensurate measures, is summarized in the spreadsheet, Table 1 in Appendix. Cells in the shaded upper rows 5-12 are data taken directly from the 2004-5 OCTA I-405 Major Investment Study, alternatives analysis.

Travel Time Savings in row 6 are converted to dollar value in row 15 assuming a conservative Value Of Time (VOT) of 15 \$/hour (2006\$), including commercial vehicles. This annual series is converted to total net present value (in 2006\$) taking into account annual inflation and interest, conservatively assuming a real interest rate of 2% and summing over the 30 year lifetime of the measure. Note that the present value of the yearly travel time savings in cell E 16 is over \$65 bilion. Congestion delay is a very expensive drain on the county economy.

¹ Details of this calculation and its assu

Lines 17-19 are the corresponding quantities for the maximal alternative, relative to the selected, minimal alternative, 4. Notice particularly cell D19. That says that if we had chosen the maximal alternative, 8a rather than minimal alt 4, we would have saved the county \$401 million for each of the additional 94 homes then taken. In effect, *each of the 94 sub-modest homes saved by the choice of Alt 4 rather than Alt 8a will cost the county \$401 million in otherwise avoidable congestion delay.*

Table 1 Calculation of Cost Savings Estimate

| | A | B | C | D | E | F |
|----|---------------------------------|---------------|------------------|-----------------|------------------------------------|---|
| 4 | Alternative | | 4 | 8a | | |
| 5 | Construction Cost | Mill \$ | 500 | 2000 | | |
| 6 | Travel-Time Saving (TTS) | Mill ps-hr/yr | 80 | 190 | | |
| 7 | Art Traf Red'n | K v-mi/d | 81 | 200 | | |
| 8 | Incr Spd | mph incr | 5 | 10 | | |
| 9 | Cost | \$Bill | 0.5 | 2 | | |
| 10 | Cost Effectiveness | Cost/ps-hr | \$ 0.58 | \$ 0.91 | <- Shaded Cells from | |
| 11 | Single Family Residence Takings | # | 11 | 105 | OCTA / Parsons | |
| 12 | Coml Taking | K sq-ft | 48 | 696 | I-405 MIS | |
| 14 | | | | | | |
| 15 | Value of TTS /yr | Mill\$/yr | 1200 | 2850 | | |
| 16 | PresValue of TTS | Mill\$ | \$27,413 | \$65,106 | | |
| 17 | PV TTS, rel to Alt 4 | Mill \$ | | \$37,693 | | |
| 18 | #SFR rel to Alt 4 | # | | 94 | | |
| 19 | (PV TTS re 4) / (# SFR re 4) | Mill \$ | | \$ 401 | <- time saving value foregone | |
| 20 | Offer Each Owner (e.g.) | Mill\$ | | 2 | per SFR taking avoided. | |
| 21 | Cost increase factor | % | | 9.4% | <- cost of homes offer | |
| 22 | Net OC Benefit | Mill \$ | \$26,913 | \$62,918 | | |
| 23 | Net OC Benefit re 4 | Mill \$ | | \$36,005 | <-- Increase in overall OC benefit | |
| 24 | | | | | including travel time savings | |
| 25 | NAMED CONSTANTS | | | | and added ROW cost | |
| 26 | ValueOfTime, \$/ps-hr | 15 | | | | |
| 27 | Real Interest, % | 2% | <- Real Interest | | | |
| 28 | N lifetime, yrs | 30 | | | | |
| 29 | Present Value Factor, yrs | 22.84 | | | | |



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Smooth Sailin'