Credible Commitment and Congestion Pricing

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Abstract: Both the political acceptability and the overall efficiency of congestion pricing hinge on the distribution of its toll revenue. As a result, it is now common to assert that many of pricing's practical and political obstacles can be overcome through astute use of the revenue it generates. One implication of this assertion is that the collectors of the toll revenue are unlikely to be its final recipients. But the necessity of revenue recycling raises the potential for a credible commitment problem. The toll revenue will not be distributed until after the tolls are in place, so a revenue recipient must believe that the revenue collector will make good on any promise to deliver the money. In a situation where the recipient does not trust the collector, the agreements required to implement congestion pricing could be undermined. In this paper we outline how the credible commitment problem can affect congestion pricing, and then use survey, interview and ethnographic data from Los Angeles County to illustrate our argument.

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errors are ours alone.

"The promise given was a necessity of the past; the word broken is a necessity of the present."
--Machiavelli, *The Prince*

Suppose a highway agency wants to implement congestion pricing. Because pricing will be—at least at the outset—a politically unpopular policy, the agency must promise to spend the resulting toll revenue in some politically popular and (hopefully) socially efficient manner. The agency might pledge to rebate the money to drivers through reduced fuel taxes, to dedicate the revenue to public transportation, or some combination of both. Whatever the promised distribution, however, the toll revenue cannot be distributed until after the tolls have been collected, because an agreement to begin tolling must precede the allotment of its revenue.[1] As a result, the individuals or institutions that have been promised the revenue need to *believe* that the highway agency will actually give it to them. If the individuals or institutions promised the revenue do not trust the individuals or institutions collecting it, the political exchange necessary to usher pricing into existence will not take place. Congestion pricing will suffer from the credible commitment problem.

A credible commitment is one where "clear agreement is followed by clear performance"[2]--where one party to a transaction states plainly that he will do X, the other party has no reason to doubt it, and the first party makes good on the promise. Commitment problems arise when the second party has reason to disbelieve the first, often because the first party has reneged on agreements in the past. If this disbelief cannot be ameliorated, the agreement, and whatever gains could be realized from it, will not come to pass.

[1] This is true even if the highway agency bonds against future revenue; investors will be unlikely to buy such bonds before pricing gets political approval.
[2] This is a paraphrase of MacNeill (1993) who described a credible commitment as "sharp in by clear agreement, sharp out by clear performance."

Credible commitment is not a new idea—indeed, it is a core concept of the New Institutional Economics—but it has rarely been applied explicitly to transportation policy, and never (at least to our knowledge) to congestion pricing. Yet its relevance to road pricing is strong. It is commonplace in discussions about congestion pricing for transportation analysts to acknowledge its many practical and political obstacles—that people rarely understand how pricing works; that it might be regressive and unfair; that it lacks a concentrated beneficiary with sufficient incentive to shepherd it to political approval; and that the gains from reduced congestion might be a small fraction of the total revenue collected. But it is equally commonplace to then suggest that some or all of these obstacles can be cleaned away through astute use of the toll revenue. Vouchers can mitigate impacts on the poor. Unpopular tolls can finance popular forms of public transportation. Elected officials can use rebates on gas taxes and other fees to compensate drivers harmed by pricing. Toll revenue can be used to create strong, motivated claimants who will lobby to see pricing implemented. And so forth (Guiliano 1992; Small 1992; Goodwin 1998; Kockelman and Kumanje 2002; King et al 2007).

What is striking about these assertions is their implicitly benevolent vision of governments. The toll collector—usually though not always a government—is treated as a black box, one through which toll revenue flows in and out, without diversion or impediment. Kockelman and Kumanje (2002; 2007), for example, propose a tolling system where one month's net toll revenues are promptly rolled over and distributed to all licensed drivers, while Levinson and Rafferty propose a tolling plan where the government returns tolls revenue "directly to those whose were delayed almost instantly" (2008: 4). But the government is not a black box: it has an internal organization and external reputation, and both of those matter. In American transportation policy, the "government" is actually a multitude of governments, many of which

compete as much they cooperate. Transportation authority in U.S. metropolitan areas is shared vertically by local, state and federal governments, and horizontally across a wide range of local governments. There is thus a strong possibility that in any system of congestion pricing the final recipients of the toll revenue will not be its collectors. This will be true if the toll revenue is rebated to drivers (Small 1992), if it is given to public transportation agencies (Goodwin 1998) or if it is redistributed to local governments (King et al 2007). The viability of *any* redistribution plan pivots on the credibility of the institution doing the collecting. No use of the toll revenue will be valid if the revenue recipients do not believe the revenue collectors will give them the money.

In this paper we illustrate the credible commitment problem, using evidence from Los Angeles County. LA County is a fragmented metropolitan region with the nation's worst traffic congestion and a history of tumultuous intergovernmental relations. State policymakers in California have for years raided funds dedicated to local governments, particularly local transportation, and diverted them into the state's general fund. Elected officials from the southern and eastern parts of LA county regularly complain that dedicated transportation funds—financed by taxes they took risks to support—disproportionately benefit the City of Los Angeles. The result is a political environment often characterized by accusations of favoritism, unfairness and broken promises.

Poisoned political environments have policy consequences. We show, using data from over 50 interviews with local officials, that pervasive mistrust between governments poses a serious obstacle to the implementation of congestion pricing. Fully one-third of our interview respondents told us that distrust of state or county agencies would prevent them from supporting

congestion pricing—a share equal to those who worried that congestion pricing might be regressive or unfair.

We are able to buttress our survey and interview results with ethnographic evidence, as a result of a fortuitous turn of events. Shortly after we completed our survey and interviews, New York's federally-funded congestion pricing experiment was derailed by conflicts between state and local officials. In the wake of this setback, the federal government hastily reallocated New York's pricing funds to Los Angeles, to finance a pilot tolling program designed by the Los Angeles Metropolitan Transportation Agency (MTA) and the California state Department of Transportation (CalTrans). The speed with which CalTrans and the MTA created this program prevents it from contaminating our survey and interview results. While we were conducting our research, neither we nor our respondents knew that the MTA program was being developed. The subsequent unveiling of the pilot program, however, allows us to observe public officials' reactions to an actual proposal for congestion pricing, and thereby lets us check the validity of our survey and interview data. The reactions we observed, where local officials dwelled on past grievances with state and county agencies, further reinforce the idea that efforts to implement congestion pricing could founder on intergovernmental and interjurisdictional mistrust.

To be clear: we are not asserting that credible commitment is the only or even the most important obstacle to congestion pricing. Other transportation analysts have correctly noted that pricing's political fortunes are hindered by concerns about equity, by a belief that pricing is a form of "double taxation," and by a general misunderstanding of how congestion pricing works and the benefits it delivers. Our data support all these assertions. But these assertions are often followed, in the literature, by another assertion: that revenue redistribution can ameliorate these problems. Our point is that the need for revenue redistribution might just as easily *compound*

these problems. Congestion pricing is often described as a new approach to fighting congestion, and in many ways it is; forcing motorists to pay rent for the roads is a radical departure from conventional transportation planning. But new *policy* is not the same as new *politics.* Congestion pricing may be something new under the sun, but its supporters will introduce and debate it in the same old political environments, which are often polluted by old grudges, territorial feuds, and long memories of broken promises (real or imagined).

In the remainder of this paper we first describe the commitment problem and then illustrate its relevance to congestion pricing. We emphasize two important precepts about commitment problems: that they tend to be worse when one or more parties to an agreement has violated contracts in the past, and that they are exacerbated when one party is being asked to support a policy that is new or unknown. We show that these conditions hold for congestion pricing in general, and congestion pricing in Los Angeles County in particular.

II. BACKGROUND: PROMISES MADE AND BROKEN

Trust is the essence of politics, because politics is built on exchange. Only rarely does a political goal command majority support from both elected officials and the public. More often a policy will be extremely important to one group, modestly important, or at least not objectionable, to another, and opposed by still others—none of whom represent a majority. In such circumstances the policy's success will require a coalition, and the coalition will be held together by an explicit or implicit understanding that any group's support will be returned in kind.

Unfamiliar Policies, Unreliable Partners

The commitment problem arises because many political exchanges are not simultaneous. If two groups don't swap favors at the same time, then their exchange is becomes, for one, an

investment, and like all investments it entails risk. The size of the risk will depends both on *who* the group is agreeing with and *what* it is agreeing to do. Agreeing to support a policy that is new, or complicated, or that imposes a transparent short-run cost on voters, will entail substantial risk. Elected officials who throw their weight behind a colleague's proposal for an across-the-board tax cut risk little; officials who support visible and direct new charges (congestion tolls, for instance) are taking a larger gamble.

A new or unfamiliar policy can be risky simply because it is new. The old adage in politics is that "when you are explaining, you are losing," and some policies are more self-evident than others. The prevalence of an idea both increases awareness of it and reduces the risk associated with it. This is true whether the idea is good or bad. For elected officials, there is political safety in adopting a widespread strategy, even a flawed one; it is better to make the same mistake as everyone else than to make a new mistake all your own.

To be sure, risk is only one side of the ledger, and the peril of supporting an unfamiliar or unpopular policy can be counterbalanced by the potential reward. Public transit advocates might support unpopular road tolls if they are promised the resulting revenue. But relying on revenue to build support solves one problem while creating another--if the revenue isn't delivered, the justification for the policy disappears. Thus risk will be exacerbated, not mitigated, if the highway agency is unreliable (or even if it just a reputation for being so).

Commitment problems will therefore rise as the ability to enforce agreements falls. A group that has broken promises in the past, or that is powerful enough to escape punishment if it breaks promises in the future, poses a particular peril. For this reason commitment dilemmas are particularly prevalent in contracts between elected officials or governments. Contracts between private parties are not immune to commitment problems, but private contracts can be monitored

and enforced by governments. The promises of governments and politicians, however, are harder to enforce. Political promises are frequently informal, often just verbal pledges and sometimes not even that. The commitments of governments (as opposed to politicians) are more explicit, but governments are also powerful, and the price they pay for defecting is often low. Governments often retain some amount of ineradicable discretion, and they can as a result ignore past promises, or violate agreements, or pass new laws that supersede old ones, and do so with relative impunity.

The idea that governments can violate agreements might at first seem implausible. No one is above the law, after all, and in some ways elected officials are highly constrained, hemmed in by (and overly responsive to) small changes in public opinion. In this interpretation, the courts will punish a governor who acts illegally; voters will punish elected leaders who breaks promises to the public; the politician who betrays a colleague will feel that colleague's wrath later.

But voters have short memories and short attention spans. Politicians make many promises to many people, and keeping some frequently involves breaking others. A politician might break a promise to a colleague in order to keep one to a constituency, or break a promise to a constituency declining in power in order to reward another that is ascending. In theory the voters punish those who rob Peter to pay Paul, but in practice this only happens if Peter is a highly visible and popular fellow, and if he gets mugged in broad daylight shortly before an election. When legislators quietly raid dedicated funds to plug holes in a budget, often the outcry comes from only from the aggrieved minority--the majority is simply happy to see a budget

crisis averted, and their tax rates unchanged. The aggrieved minority might appeal to the courts, and in principle these appeals should work.[3]

In California, for example, neither promises, laws, nor lawsuits seem capable of stopping the governor and legislature from diverting dedicated revenue into the state's general fund (Table 1). Between 1991 and 2003, state legislators used over $40 billion of local, county and redevelopment agency funding to plug holes in the state budget. In 2004 voters approved (with 84 percent support) a ballot initiative explicitly designed to curb this “forced lending” from localities to the state, but legislators have continued the practice, mostly by exploiting a clause that allows borrowing to happen during fiscal emergencies. Particularly galling to many local officials was the state’s reallocation of voter-approved transportation bonds, and its diversion of other voter approved revenues from the Public Transit Account (even after voters had approved, 77-23, a measure protecting public transportation funds from diversion) . In 2009 state officials, again confronted with a fiscal crisis, announced that they would balance the budget by withholding billions of dollars from localities and redevelopment agencies. From 2000 to 2008, the governor and legislature diverted at least $8 billion in dedicated transportation funding to the state's general fund, almost $6 billion of which has yet to be repaid. In 2008 the state legislature wrote a budget bill that would have taken $350 million dedicated to redevelopment and used it for the state's general fund. In response, the state's redevelopment authorities filed suit, and a Superior Court ruled that such a revenue shift would be unconstitutional. The state decided not to appeal this decision. Nevertheless, three months later the governor and legislature approved a slightly different bill that took *$2 billion*--six times the previous diversion--from the dedicated

[3] In a federalist system such unpunished overreach should not take place. The U.S. government is designed as a system of counterweights; the three branches of government, in seeking to protect and maximize their own authority, will prevent the overreach of other branches. But courts and legislatures often seek not to maximize authority but to evade responsibility, particularly when issues are highly polarized.

redevelopment funds and moved them into the general fund. In October of 2009 the redevelopment agencies filed suit again.[4]

A government that breaks a promise usually does so in the name of necessity, but "necessity" is a usefully broad and ambiguous term. An elected official or government might renege on an agreement in a number of ways and for a number of reasons. “A prince,” as Machiavelli observed, “never lacks legitimate reasons to break his promise.” The defection might be deliberate and premeditated—politicians might give their word knowing they will break it—but this needn’t be the case and in many instances probably is not. More frequently unforeseen events, such as a fiscal emergency or other exogenous shock, might “force” politicians to raid funds they had earmarked for other purposes. Or the elected officials who made the promise might retire or be thrown out of office, prompting their successors to rethink the original commitment. (Entering into an agreement with a government or politician often requires trust not only in the politician but in the politician's likely successor). Or the initial commitment might yield disastrous short-term results, leading elected officials to abandon their course of action, even it means leaving some promises unkept (Cowen et al 2000; Falaschetti and

[4] For information on forced lending, see Waldie (2009) and in particular Barbour (2007), who offers a full description of intergovernmental fiscal tension in California. For information on diversions from transportation funding, see *Los Angeles Times*, "Groups File Measure to Block State Raids of Local Funds" October 20, 2009. For information on the Public Transit Account, see *Shaw V Chiang*, California Supreme Court No.58479, and for more on the CRA diversions, see *CRA v. Genest.* Lest anyone think that such actions are unique to California, consider the case of Seattle. In 1997 Seattle voters approved, by referendum, a plan to build a monorail system, but the City refused to fund it--even after the courts, in 2000, ordered the city council to either build the monorail or repeal the ballot initiative. The Council did neither, and eventually the monorail proposal just died. In 1995 Seattle voters had defeated a ballot proposal to publicly finance a new baseball stadium, only to see the state legislature step in and provide the subsidy anyway. History also provides a number of non-transportation-related examples of politicians choosing to simply ignore court decisions they don't like. To give but two: in 1832 the Supreme Court decided *Worcester v Georgia*, and ruled that the United States could not forcibly remove the Cherokees from lands they had been promised in earlier treaties. President Andrew Jackson ignored the Court, and declared (perhaps apocryphally) "[Chief Justice] John Marshall has made his decision. Now let him enforce it" (Norgen 2004). More recently, the American Civil Liberties Union successfully filed suit to force the US government to release photographs of abused detainees. The government appealed the case twice and lost, but President Obama nevertheless chose not obey the court order to release the photos (Stein 2009).

Miller 2001). For example, a coalition of actors might support a new tax to pay for capital improvements, but embarrassing cost overruns might prompt a damage-controlling new law that repeals the tax before all members of the coalition get their promised share of the revenue (these circumstances describe the process of subway construction in Los Angeles, as we discuss below).

Overcoming the Commitment Problem

Commitment problems can be resolved in some combination of two ways. The first approach is to minimize the importance of a policy's non-immediate benefits. So if the most salient benefit of congestion pricing is its revenue, and if political actors are concerned that the revenue will never materialize, then one way to avoid the commitment problem is to show people that pricing has benefits beyond its revenue, and to convince them the policy is worth pursuing even in the revenue's absence.[5] Such persuasion is often difficult but not impossible, and we return to it in the Conclusion.

When education is difficult, a commitment problem can be mitigated by taking steps to minimize defection. This approach, in turn, usually involves some combination of two strategies: vertical integration and economic hostages. Vertical integration makes monitoring performance (and punishing nonperformance) easier. If Group A breaks a promise to group B, B may have little recourse. But if A works for B, or if both work for some larger institution and therefore have aligned goals and incentives, then the prospect of Group B defecting is lower, both because the motivation to do so is reduced and the cost of doing so rises. Private companies often

[5] It's worth mentioning that fears of not receiving revenue might take two forms: that others might break a promise to deliver revenue, or that others might, through error or lie, forecast a revenue stream that fails to materialize. Congestion pricing, in other words, might actually raise no net revenue. Our evidence suggests that the first fear is more common than the second, but both are possible.

vertically integrate some tasks to eliminate the hassle of negotiating and monitoring many small agreements (Coase 1937; Williamson 2000; Weingast and Marshall 1988).

In the political arena, however, it is often difficult for one group to subsume another. A firm can purchase one of its suppliers, but an elected representative can acquire neither his colleagues nor his successors.[6] Commitment problems in government and politics may thus be more likely to involve hostages. The use of hostages--or, more precisely, the economic equivalent of hostages--was first described by the economist Thomas Schelling (1957) and explicitly linked to commitment problems by Oliver Williamson (1973). The idea behind hostages is simple: one person can bind a second person to a promise by identifying some future goal that is important to the second person, and then maneuvering himself into a position where he has decisive control over its fate. The second person therefore cannot defect from his promise without jeopardizing an important goal of his own. Note that hostages can be given as well as taken. If the second person wants to demonstrate his trustworthiness, he might actually *place* the first person in a position to torpedo his future goal. He might give a hostage to *signal* credibility, or the first person might take the hostage to *ensure* credibility. If a hostage is taken rather than given, however, the commitment problem might be escalated rather than resolved. The second person, if he is determined to defect from the initial agreement, might simply take another hostage in turn (assuming one is available).

III. CREDIBLE COMMITMENT AND CONGESTION PRICING

The nature of congestion pricing makes it particularly vulnerable to commitment problems. Outside of its revenue potential, congestion pricing is unfamiliar and difficult to understand, so its political and social efficacy depend on the subsequent redistribution of the

[6] In theory, one bureaucracy can absorb another (a highway agency could take over a transit agency) but in practice this rarely happens.

money it raises. [7] But the revenue is *by definition* a future benefit; it doesn't begin to flow until the tolls are in place, and the tolls are not in place until some individuals or groups expend resources to secure their approval. So if those who would fight pricing's approval *contingent* on the revenue being spent in a particular way do not believe the revenue will in fact be spent that way, then pricing is a non-starter.

Evidence from prior studies of congestion pricing suggests that commitment problems have, in fact, played a role in undermining support for the policy (Table 2). Congestion pricing in Hong Kong failed in part because voters did not believe government promises to rebate the toll revenue to drivers (Borins 1992) and in part out of fears that the Chinese government, which was slated to take over Hong Kong in 1998, would not honor any promises made by current authorities (Vickrey1993). Postmortems on the failed pricing referendum in Edinburgh suggest that voters were skeptical about government pledges to dedicate toll revenue to public transportation (McQuaid and Grieco 2005), and congestion pricing in New York was toppled in part by similar doubts (Orski 2008; Schaller 2010). A subsequent plan to toll bridges on the East and Harlem Rivers, and to rebate some of the toll revenue to drivers, was stymied by local officials' disbelief that the rebates would be permanent. "They're going to do a rebate?" Bronx State Senator Ruben Diaz Sr. said. "After two years they're gonna say no rebate. It's a gimmick" (Neuman 2009).

Conversely, places that have successfully implemented congestion pricing have institutional structures that allow them to overcome commitment problems and other institutional obstacles. Singapore has had a road pricing system in place since 1975; it is also a quasi-

[7] See Small 1992; Guiliano 1992; Goodwin 1997; Kockelman and Kumanje 2004; King et al 2007. Revenue is important not just politically but socially: a number of researchers have also pointed out that absent any revenue redistribution, congestion pricing might improve traffic but reduce welfare (Arnott 2005; Lindsey 2006; Santos 2008; Prudhomme and Bocarejo 2005; Goodwin 1999).

authoritarian state where most power rests with the Prime Minister, and where the Prime Minister has changed only twice since the country's independence in 1959 (and where the same party has won every election since 1959) .[8] London successfully implemented a congestion charging program in 2003, but transportation policy in London is vertically integrated. Transport for London (TfL) has complete control over transportation policy in Greater London--a situation that is unheard of in the United States, where authority over transportation is shared among multiple agencies and jurisdictions. London's Mayor could and did begin congestion charging without legislative approval (Schaller 2010).

IV. CONGESTION PRICING AND MISTRUST: SURVEY AND INTERVIEW EVIDENCE

To recap: commitment problems tend to be worse in instances where the policy at stake is new or complicated, and where one of the parties to agreement is particularly fearful of defection. These conditions aptly describe congestion pricing. Table 3 shows results from a survey we administered to 87 local officials in Los Angeles County. The sample was one of convenience, and the survey was short: one-page, three-questions. We administered the survey to a mixture of elected officials, appointed officials who dealt with traffic congestion (such as planning directors or transportation directors, although in some smaller cities this was the city manager) and to regional planners. In total, we received responses from 53 elected officials and 32 appointed officials, representing 58 of the county's 88 cities.[9] Full details of the survey can be found in the Appendix.

At first glance, support for congestion pricing is rather high: 47 percent of respondents either “strongly support” or “somewhat support” using pricing on freeways, while only 15

[8] See Richmond (2008).
[9] The survey did not include the county's unincorporated municipalities, nor did it include the city of Avalon, which is located on island 30 miles off the California coast.

percent oppose it. Support for cordon tolls was lower: 20 percent of respondents support the use of cordons while 26 percent oppose them. A proponent of congestion pricing might find promise in these numbers, but closer examination should dilute that enthusiasm, for two reasons. First, while more people reported support for pricing than opposition, pricing has very low levels of support *relative* to other policies. Where 47 percent of respondents express some support for freeway congestion pricing, 65 percent expressed support for expanding the freeway system, 90 percent supported more carpool lanes, 96 percent supported improvements to the bus system, and 96 percent supported increased investment in light rail. Based on these numbers, one could reasonably conclude that if asked to choose *between* policies, many respondents would rank congestion pricing rather low.[10]

Second, and more importantly, a high share of the respondents had no opinion about pricing. Almost 40 percent of the respondents marked "don't know/indifferent" when asked about freeway congestion pricing, and over half marked "don't know/indifferent" when asked about cordon tolls. By contrast, only 3 percent marked "don't know/indifferent" when asked about light rail transit. Thus the dominant response to the idea of congestion pricing was neither support nor opposition, but uncertainty.

TABLE 3

In addition to our surveys, we also conducted interviews with 53 local officials--36 elected and 17 appointed officials from 39 of the county's cities. In each interview we asked

[10] A counterargument is that if one asked respondents to choose between policies but also included the price of each policy, respondents might choose congestion pricing. For local officials, however, the question is not just how much a strategy costs but who will pay and how. The costs of roads and rails tend to be hidden in gas and sales taxes; the costs of congestion pricing, by contrast, are transparent.

respondents about their knowledge of, and support for, congestion pricing, and then asked if their support would rise or fall if the toll revenue was spent on roads or public transportation, or if it was returned to cities on a per capita basis, as described in King et al (2007). More information about the interviews can be found in the Appendix, but one point worth mentioning is that no respondent was directly asked about their trust or distrust of state officials; any mention of such distrust was volunteered.

Our interviews support the idea that many respondents, both elected officials and professional transportation planners, lack a solid understanding of how congestion pricing works. In part this absence of understanding might reflects a larger unfamiliarity economics-based arguments about efficiency (i.e., Viergas 2001; Caplan 2007)--many people think of prices as mechanisms of profit rather than mechanisms of allocation, and this understandable confusion doubtless stems from many Americans having never taken (or having long forgotten) economics classes.[11] In part, however, uncertainty about congestion pricing also reflects the degree to which pricing, although long lionized in transportation academia, has failed to trickle down into the knowledge base of local practitioners. As one of our respondents told us: "I don't think there's been a serious discussion of tolls. I've been in elected office for 12 years. It's never been discussed at meetings that I've ever been to. We've discussed adding lanes on the freeway. We've discussed subway. There's been discussion of light rail. There's discussion of carpooling and expanding carpools, and certain vehicles. I've never had a discussion of tolls." Another

[11] Caplan (2007) provides substantial evidence that the opinions and analytical approaches of economists diverge dramatically from those of the general public, on a wide range of public issues (congestion pricing was not one of them). It is reasonable to suspect that limited exposure to economics education is part of the explanation for this discrepancy: high school economics classes were not introduced until the 1970s and 1980s, and only 13 states require high school students to take an economics class. And as of 1998, only 40 percent of college students would take one economics class (Siegfried 2000).

respondent, the mayor of a city of 100,000, told us, after candidly admitting that he knew next to nothing about pricing:

> Clearly we haven't come to the point where people have accepted that concept [congestion pricing]. I mean, when you find the mayor of a, you know, small town saying 'you better teach me about this' -- you know, there's a lot of education to be done … Maybe I'm behind the times on it, but I'm not sure I'm too far behind the curve.

Overall, interview respondents' attitudes about congestion pricing ranged from open-mindedness ("we should be prepared to try anything") to political fear ("Everyone would be recalled … the response would be overwhelmingly negative, I'm just convinced of it.") About 30 percent of the interview respondents voiced some level of support for pricing, but this support was almost always qualified. One of the major qualifications was a concern about pricing's equity—roughly a third of respondents worried that congestion pricing would harm poor drivers. Only a handful of respondents expressed an ideological aversion to tolls or other user fees.

Unfamiliarity with congestion pricing led some respondents to over-emphasize its risks and under-estimate its benefits. Over one-fifth of respondents worried that congestion tolls on the freeways would cause spillover traffic onto local streets. Interestingly, almost every respondent who voiced this concern framed it as one of jurisdictional mistrust; if CalTrans were to toll the freeway, it would be both collecting revenue and offloading drivers onto local streets that are already sagging under current congestion levels. Congestion pricing would shift rather than solve congestion levels.

> CalTrans seems to really only be worried about traffic on the freeway, and they don't care a whole lot about traffic on our streets. In fact, they're more than willing to keep traffic on our streets as long as it doesn't affect the freeway.

A planning director:

> [With congestion pricing] you're not reducing the number of trips, you're just diverting those numbers of trips from being on the freeways to possibly being on the public streets, so you're taking that one burden from the freeway system and putting it on another network.

A mayor from a mid-sized city made a similar point, and added that he would rather have freeway congestion than risk spillover traffic, even if his city received congestion toll revenue to compensate for the spillover:

> If there is going to be congestion I'd rather have it on the freeway, because frankly, it's not a city issue then from a public official point of view. And if you cause a problem that causes it now to get on the street and then you hand me a check, I'm not really sure what to do with that money because we don't have any more streets to build.

Although the introduction of tolled lanes will doubtless lead to some spillover traffic, both theory and evidence suggest that the extent of the spillover will be small. Because congestion is non-linear, a toll can removing relatively few cars from a crowded road and achieve large reductions in congestion. And because a substantial portion of trips at peak hours are not commutes, a price can make some trips "disappear"--re-allocate them to other times or other modes, and thereby lead to a congestion reduction without shifting cars to other routes. [12] Hence the prevalence of the spillover concern underscores how unfamiliar policymakers are with logic of pricing, as well as the extent to which they distrust state officials. In the eyes of these respondents, congestion-priced lanes would be a locally-unwanted land use; providing enhanced mobility to drivers across the region (and enhanced revenue to a state agency) but dumping traffic onto local streets. This is an example of how pricing's unfamiliarity compounds

[12] If an unpriced freeway is hypercongested, pricing might actually pull vehicles from surrounding roads onto the toll road. The existence and extent of hypercongestion remain open to some debate, however. Lindsey (2006) has a discussion.

commitment problems: state officials could tell local officials that pricing works, and that by its nature it minimizes spillover, but if local officials don't trust state officials such reassurances will be insufficient.

3.2 Revenue Redistribution and Distrust of State Officials

Fully 30 percent of our respondents, from cities large and small, explicitly told us that they thought the state would keep any toll revenue, even if that revenue was promised for local uses. This is a sizeable proportion; the share of respondents who expressed distrust of the tolling agencies is equal to the share of respondents worried about the equity effects of congestion pricing. In their comments, respondents cited past instances where the state had reneged on agreements to spend money in particular ways. These respondents were often at their most strident or agitated when discussing what they saw as raiding of dedicated funds by state legislators. Many of the respondents mentioned the state's diversion of the 2006 transportation bond money. For example, a city council member from Los Angeles, after running through some of the other political difficulties associated with congestion pricing, said:

> I think also there is a skepticism, which I share, that the state legislature, who would be responsible for what those dollars would be used for, not us, will use it for their own purposes, like they did this last transportation bond.

A mayor from a small city:

> I've been dragged into supporting too many things over the years where the promise was that the money was going to go for this and it turns out that it was for some other need.

A transportation director:

> We have state legislators that sell you one thing and have people vote for bonds, and then take it to play budget games, where the bond funding is not going where the voters were told it would go. … The bonds were sold.

> They were supported by a very broad-based group of people with the promise to the people of the state of California that that this was going to provide new money for new projects that would help ease these issues. And you know, it's not easy to get people to support bonds like that, yet overwhelmingly they did. What's the very first thing--six months later--that the legislature does? Now I'm on my soapbox. Here I go. They take from one pile, backfill another pile, with monies that were supposed to be for new projects but that will now be for existing projects. We're not making progress...

A council member from a small city, when asked about toll revenue being spent on public transportation or to help local governments:

> That's what we thought we were getting with the bond issue. Yeah, every city is guaranteed $400,000. And you know, we're ready to go. We have projects. We have roads that need to be fixed. We're ready to go. But you know, they're still up there in Sacramento chewing on it and trying to decide …

Another Los Angeles City Council Member:

> People are fed up with being in their cars, but they don't trust politicians enough to give them their money … For our governor and our legislature to take $1.5 billion that was targeted for transportation and use it to balance the budget is irresponsible leadership in Sacramento.

Again, it is notable that we never explicitly asked respondents if they trusted state officials; we only asked if different uses of the toll revenue would make congestion pricing more or less acceptable. In every instance that respondents brought up commitment problems, they departed from the question itself to do so.

Our interview sample is not scientific, and therefore not necessarily representative of all elected officials in Los Angeles County. Survey evidence from 2004, 2005 and 2006, however, shows that in those years local officials in California saw turmoil in the state budget as a threat to their own budgets; in 2004 90 percent of local officials considered state budget problems to be a "big" threat to their cities' fiscal health; this proportion declined to 76 percent in 2005 and 66 percent in 2006 (Baldassare et al 2005; 2006). And surveys of residents in both Los Angeles

County and California as a whole suggest that if anything our results *understate* levels of distrust toward state government. A 2009 Gallup Poll showed that Californians were more than twice as likely as residents of other states to distrust their state government (only 22 percent of Californians had a high level of trust in state government, compared to a national average of 54 percent), and in both 2000 and 2005 majorities of Californians told the Public Policy Institute of California that they thought the government wasted "a lot" of their tax dollars.[13]

V. HOT LANES AND HOSTAGES

We are able to validate the importance of trust and commitment issues in congestion pricing by documenting the approval of LA's first High Occupancy/Toll (HOT) lane. When state and county transportation officials unveiled a proposal to convert two sets of carpool lanes in LA County into HOT lanes, elected leaders from the San Gabriel Valley--the portion of the county where the lanes were to be converted--immediately united in opposition to the plan. These officials cited equity and fairness concerns (both concerns about the regressivity of the tolls and about the "double-taxation" in tolling roads already paid for by gas taxes) but they also consistently cited a history of broken promises by state and county officials, and expressed a reluctance to begin a policy experiment based on the assurances of agencies they distrusted. The rhetoric and political tactics escalated, and each side took a “hostage” before the HOT lane proposal was ultimately approved.

The proposed HOT lanes would cross the portion of Los Angeles County called the San Gabriel Valley. Elected leaders in the San Gabriel Valley have harbored suspicion toward county officials since the 1990s, largely as a result of the county's subway program. The subway program began when voters approved a penny-on-the-dollar sales tax increase in order to finance

[13] For the Gallup Poll, see Jones (2009). For the PPIC polls, see Baldassare (2005) and Baldassare (2002).

it.[14] A broad coalition of local officials from across Los Angeles county had thrown their support behind the sales tax increase, and the proposed path of the subway reflected the need to assemble this disparate geographic support (Taylor et al 2009). The initial subway route was slated to run from downtown Los Angeles to North Hollywood, and then extend west to the ocean. Once those routes were complete, the funds would be devoted to an eastward extension into the San Gabriel Valley, and then to a route that ran further into the San Fernando Valley.

County officials held a groundbreaking for the subway in 1986, but the program quickly became bogged down in construction delays, ballooning costs and an embarrassing sinkhole that developed on Hollywood Boulevard as a result of a tunneling error. By 1998 the MTA had spent almost $5 billion and still not completed the route into North Hollywood. In response to the escalating costs and bad publicity, that year a group of elected officials from the west side of the county sponsored a ballot measure halting any further use of sales tax revenue for subway construction. Elected officials from the San Gabriel Valley opposed this measure, because their support for the sales tax increments had been won with a promise that the subway would eventually extend east into the San Gabriel Valley. The measure succeeded, however, and effectively ended subway construction in Los Angeles County.[15] The MTA instead built a light rail route, called the Gold Line, in the San Gabriel Valley.

By 2008, when the MTA introduced its HOT lane proposal, officials in the San Gabriel Valley were lobbying for an extension to the Gold Line, and local, state and federal elected officials from the Valley had secured approximately $320 million in federal funds for this extension. The federal money, however, required an $80 million matching contribution from the

[14] Technically, the rail program was the product of two separate 1/2-cent sales tax increases, both approved via the ballot.
[15] Interestingly, although elected officials in the Valley opposed the end of the subway, *voters* in the Valley supported halting subway construction by a 2 to 1 margin.

MTA, which the MTA was reluctant to provide. At the same time, the Mayor of Los Angeles--who is also the chair of the MTA's board--was attempting to re-start subway construction, and in particular to finance a subway line that would run west from downtown Los Angeles to the ocean (a "subway to the sea"). To finance the subway (and other transportation projects) the Mayor was backing a new countywide half-cent sales tax increase, which would, if approved, raise approximately $40 billion over 30 years.

To San Gabriel Valley officials, the MTA's behavior was profoundly unfair. The MTA had initially promised a subway for the San Gabriel Valley if the Valley supported financing a west side subway first, and then it reneged. Now, years later, the MTA was back asking for support to build *another* subway on the west side, but would not guarantee financing for the Gold Line extension. On top of this, the agency also wanted to put tolls on a San Gabriel Valley highway.

The MTA portrayed the HOT lanes project as a benefit for the Valley--a unique congestion reduction strategy that would be accompanied by plentiful federal transit funding. But Valley officials saw it as a cost; an unproven experiment with toll roads that would likely result in spillover traffic. In part this hostility reflected a misunderstanding of how the HOT lanes would work, but in part it reflected the accumulated distrust of the MTA on the part of the San Gabriel Valley. The 13 state legislators of both parties who represented the San Gabriel Valley refused to support the bill required to ratify the HOT lanes proposal. A Valley Congressman filed federal legislation (the "Free-Way Act") that would prohibit the use of federal money in creating toll roads. In a series of meetings, interviews and public hearings, Valley officials from all levels of government criticized the pricing proposal, often citing a history of the MTA's bad faith and broken promises. And they took the subway hostage. A number of these officials said they would

not support the pricing proposal—or for that matter funding for the subway—if the MTA did not fund the Gold Line.

Congresswoman Hilda Solis, for example, said that her votes on federal funds for the subway would hinge on the MTA's Gold Line decision. "What do you think I'm going to do when [the subway] comes up?" she said. "I'll say 'you had an opportunity to help us out." Similarly, Pasadena Mayor Bill Bogaard told the MTA board, when it was debating approval of the Gold Line extension:

> The City of Pasadena is quite prepared to look favorably at the sales tax proposal. We're quite prepared to grapple with congestion pricing. Our city was the first to appoint its most qualified staff person to serve on the 210 steering committee for congestion pricing. But, I can say that if the Metro board doesn't express support in the long-range plan for this [Gold Line] project, it will be extremely difficult to pull our city together in support.

At the same hearing, Gloria Molina, a county supervisor representing the San Gabriel Valley, gave a long speech—to loud applause from Valley officials in the audience—expressing opposition to both pricing and the subway, and repeatedly pointing out that the MTA had broken its word in the past:

> The voters of LA County remember … when we were ready to go to a subway to the east side. We had everything prepared, we had stepped out, we had waited in line, we had been patient, we were ready to put our shovels into the ground, we had had all the fanfare that went with it and all of a sudden one of my colleagues on the board decided to initiate an initiative that prevented all sales tax to go to any subway construction. Prohibited it. … [So] we went back and east side accepted a light rail system and it has been very successful and yet it has been very troublesome, cumbersome … … And of course now that [the subway is] going in a different direction from the east side all of a sudden we are going to use sales tax money to build a subway that isn't going over to the east side… Now we are talking about a new sales tax measure and the inequities are compounded, because when it goes to the west side of town they get a subway; when it went to the east side of town … or anything else, you have to get light rail. I would have [supported a subway ban] if it would have been fair across the board; if this was the end of subways forever in the LA region that's acceptable. But don't start changing the rules after we've gone our way…

The Valley elected officials essentially turned the congestion pricing program, and the subway project, into hostages. The MTA, however, called the Valley's bluff. The agency's board declined to fund the Gold Line (technically, the board postponed a decision on the rail extension, but in postponing the decision it allowed the deadline for securing federal matching-funds to pass, effectively killing the project). With the possibility of federal funding eliminated, the only source of financing for the Gold Line was the proposed sales tax increase. The MTA had taken a hostage of its own; by tying the fate of the Gold Line to the fate of the tax increase, the MTA had aligned the Valley's incentives with its own. Valley elected officials could not scuttle the subway without scuttling their own project. With the two rail projects bound to one another, the Mayor of Los Angeles made a compromise gesture with regard to congestion pricing. He agreed to move one of the proposed HOT lanes into the city of LA, so that both parts of the county would have to carry a potentially unpopular toll lane. Both the HOT Lane and the sales tax proposal won approval.

V. CONCLUSION

In 1972, Gordon Tullock introduced the idea of the transitional gains trap. The trap, as he described it, was as follows: a government grants a special privilege or exemption to a favored group, thereby delivering benefits to that group but imposing costs on all others. Even if the benefits of that privilege diminish over time, removing the privilege remains difficult, because it requires the imposition of substantial short-term losses on the privileged group. Elected officials with short time horizons are reluctant to impose these costs, and so the inefficient policy persists, exacting large but largely hidden costs.

The transitional gains trap provides a fair description of the dilemma that faces contemporary transportation policy. Anyone concerned about traffic congestion will sooner or later run into the problem of a privilege--unpriced access to scarce road space--that was granted to drivers a century ago. As driving has increased, the value of that benefit, even to drivers, has fallen, but the political cost of removing the privilege, which is now entrenched and seems almost "natural," has grown.

Implementing congestion pricing would inflict short-term harm on a substantial number of drivers. In principle, this harm could be overcome by marshalling some of the resulting efficiency gains; that is, by using the toll revenue. The revenue could be used to motivate political entrepreneurs to push for pricing, to compensate those who might be harmed, or some combination of both. Implicit in these solutions is a promise--a promise that, once the tolls are in place, the revenue will spent in a particular way.

Promises, however, are much easier to make than keep. Were the costs of making and keeping a promise bundled together--if every person making a promise had to fulfill it *right then*--more promises would be kept (although doubtless fewer would be made). But in most instances making and keeping a promise are separate events, with separate sets of costs and benefits. It is often individually rational for a politician to break a promise, but it is collectively harmful; distrust and risk aversion are the externalities of past broken promises, and the accumulation of these externalities can impede the introduction of newer, better policies. Policy innovation requires risk, and risk requires trust. Individuals and institutions who have records of breaking promises will not suddenly be deemed trustworthy because they are advocating congestion pricing.

How then can we overcome problem of credible commitment? The costs of commitment come from two sources: the perceived risk that a counterparty will defect, and the perceived risk that the policy being agreed to will fail or be unpopular. The commitment problem can be reduced by reducing one or both of these risks.

One way to reduce the risk of defection is privatization. If it is easier to "tie the hands" of private firms, then an agreement to have a private operator toll the roads, and to dedicate some of the net revenue to a public purpose (with the remainder being operator profit) might be more credible than a similar commitment made by political officials. Private firms tend to have longer time horizons than public officials and are less sensitive to the short-term anger of voters, and they are more readily disciplined for breaches of contract. Hence privatization in this sense may not be *economically* efficient (both the public and private sectors can create markets in road space) but *politically* efficient. Privatization lets the public sector outsource the problem of political will.

At least in the short run, however, privatization will have its limits; voters are suspicious of turning existing roads over to private operators, and while many efforts at privatization have worked, the public tends to remember high-profile failures.

The other approach to reducing commitment problems is to address fears and misperceptions: to demystify congestion pricing itself. Of all pricing's benefits, the toll revenue is the easiest to understand, and therefore likely to be the most salient in the minds of voters and elected officials. If voters and officials better understood the benefits of pricing itself, as opposed to its revenue, the relative political importance of the revenue might fall. As the significance of the revenue declines, so too will the fear that the revenue will not materialize.

The need to clarify the benefits of *collecting* tolls, as opposed to *distributing* toll revenue, suggests an important role for HOT lanes. The great value of HOT lanes is in their potential to educate people about congestion pricing. HOT lanes impose a charge only on those who choose to pay a toll, but they provide a demonstration for anyone who chooses to pays attention. HOT lane conversions can therefore avoid imposing large short-term losses on unwilling drivers, yet nevertheless illustrate the advantage of priced lanes (Fielding and Klein 1993). The prevalence of HOT lanes will do little to ease concerns about promises to spend toll revenue, but it may reduce the importance of the revenue in the political calculus of congestion pricing. If more people realize that they can benefit from tolls even in the absence of revenue recycling, then unreliable revenue collectors become a less salient problem.

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Table 1: Revenue Diversions from Local to State Government in California, 2000-2009 (millions of dollars)

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Total
Property Taxes	652	704	760	807	1214	1,303	1,058			1,900	8,398
Public Transit Accounts	295	100		181	354	380	325	1,052	1,395	910	4,992
Redevelopment Funds**			75	135	250	250			350	1,700	2,760
Vehicle License Fees*					1,693	1,778	1,867				5,338

Notes: All dollars nominal. "Property taxes" refer to Educational Revenue Augmentation Fund (ERAF). In 2004/05 and 2005/06 the property tax total represents two different ERAF shifts (phase II and III). **The redevelopment funds only include city redevelopment agencies. County redevelopment agencies lost approximately $8 million. The 2008-2009 diversion was successfull blocked in court, and the 2009-2010 diversion is being litigated.

*The Vehicle License Fee Diversions do not include the "backfill" of these fees, wherein the state took approximately $500 million from the cities in 2003-04 and paid it back in 2005-2006..

The state gave cities additional property tax revenue in order to compensate for losses in Vehicle License Fee revenue.

Sources: Coleman Financial Services, Californa Public Transit Association, California Redevelopment Authority.

Table 2: Credible Commitment Issues in Selected Congestion Pricing Proposals			
Area	Proposed Pricing Plan	Outcome	Commitment Issue
Hong Kong	Cordon Toll	Defeated	Voters didn't believe toll revenue would be used to rebate other vehicle taxes; concern that Chinese government would not honor promises of British government after 1998 takeover
Edinburgh	Cordon Toll	Defeated	Disbelief that toll revenue would be used for public transport rather than the general fund
New York	Bridge Tolls	Defeated	Tolling proponents suggested a rebate to some commuters; opponents dismissed rebate as a "gimmick"
Los Angeles	HOT lanes	Approved	Local officials didn't believe pricing would reduce congestion, and cited past broken promises by county transportation officials
London	Cordon Toll	Approved	Vertically integrated transportation system reduced commitment problems
Singapore	Cordon Toll	Approved	Strong central government and extreme continuity of government reduced risk and uncertainty

Table 3: Support for congestion management strategies

	Congestion pricing on freeways	Cordon tolls	Carpool lanes	Preferential carpool lanes	Bus transit	Light rail	Facilities management	Parking management	Expanding freeways
Strongly support	17%	1%	42%	19%	53%	64%	62%	31%	39%
Somewhat support	30%	19%	48%	39%	43%	32%	30%	35%	26%
Somewhat oppose	12%	21%	4%	17%	1%	1%	0%	6%	16%
Strongly oppose	3%	5%	0%	4%	0%	0%	0%	0%	4%
Don't know/Indifferent	39%	51%	6%	18%	1%	3%	8%	25%	14%
n=	77	75	77	75	76	77	77	75	76

APPENDIX

The interviews and surveys were conducted simultaneously; we began interviewing respondents in the winter of 2007, and asked each interview respondent, prior to the beginning of the interview, to fill out the survey. Interviews usually lasted 20 minutes, although some went on considerably longer.

In recruiting participants, we told respondents that they would be participating in a study on traffic congestion. We did not explicitly mention congestion pricing, because in part we wanted to ascertain local officials' familiarity with the concept. For the same reason we also did not immediately begin the interview with a discussion of congestion pricing. Rather we first asked respondents to describe the congestion problem in their city, and the various policies, if any, that the city employed to combat congestion. From there we asked if the city employed a lobbyist at the state or federal level to work on transportation and congestion-related issues, and asked whether the city worked with its neighbors on congestion-fighting initiatives. Only after these questions were asked did we bring up congestion pricing. We did so in a series of three questions (the exact wording varied from conversation to conversation):

> *Most academics, and certainly most economists, believe that in a place as congested as Los Angeles County, the best way—and maybe the only way—to reduce congestion would be to put congestion tolls on the region's freeways. So I want to ask: how familiar are you with this concept of congestion pricing, and what are your thoughts or reactions to it?*

If a respondent said he or she was unfamiliar with congestion pricing, we supplied them with a neutral definition, emphasizing that it involved tolls that rose and fell with the level of congestion. We did not provide a detailed rationale or defense of congestion pricing to any respondents. Importantly, we also did not say anything about tolling only a few lanes, creating HOT lanes, or building roads explicitly to toll them. We asked about the idea of placing tolls on freeways that were currently unpriced.

The second congestion pricing question was:

> *One of the great advantages of congestion pricing is its potential to raise revenue. Estimates vary, and we should always take them with a grain of salt, but academics who have attempted to forecast the revenue from congestion pricing on LA's freeways think it would net over $5 billion per year. Do you think you, or the people in your city, would be more amenable to congestion pricing if this revenue were spent on transportation projects, such as roads or public transit?*

And the final question:

> *Let me ask one final question: suppose that instead of spending the toll revenue on transportation, the revenue was returned to individual cities on a per capita basis, and they could spend it in any way they saw fit. So*

a city with 50,000 people would receive $2.5 million per year. Would you be more or less likely to support congestion pricing if this revenue plan were in place?

In all, we conducted 53 in-depth interviews and administered 87 surveys. The interviews were transcribed by a professional transcription service, and each interview was coded by at least two researchers.