

To: Metropolitan Area Planning Council

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Subject: Comments on the Regional Truck Study

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The first substantive results from the regional truck study presented at the public meeting on Tuesday, October 3, were deficient in two major respects: (1) of the alternatives tested, seven out of nine would *increase* the total amount of truck traffic in the region and in the participating communities; (2) the models being used fail to incorporate demand elasticities, sometimes known as induced demand.

Alternatives

Almost all of the alternatives tested were to allow trucks to go where they are presently prohibited. The ostensible rationale for this is to draw trucks off of residential streets. The results did not show much gain even if total truck traffic stayed the same, which it would not.

In my three years on the Cambridge Truck Advisory Committee, the only option we considered for relaxing truck restrictions in Cambridge was on the section of Memorial Drive between the BU bridge and Vassar Street. This option was proposed by City staff and rejected by the Committee because it was physically infeasible (Memorial Drive would have to be widened because the lanes are too narrow) and politically infeasible. There was no apparent support for this option on the Committee, and the only other alternative pro-

posed for relaxing truck restrictions was the ban on hazardous materials in the Prudential Tunnel. MAPC/CTPS did not test the elimination of this restriction.

Of the two alternatives tested by CTPS that added restrictions rather than removed them, one was on Cardinal Madeiros Boulevard and one for a nighttime ban. The former is a good example of a piecemeal restriction; given the limitations of the model in lacking demand elasticity, the inevitable result is that the same truck trips are pushed onto nearby streets. Cambridge City staff, in speaking to the truck Committee, constantly urged support of a "regional" study, claiming that the problem was regional and could only be solved by coordinated regional action. Yet one of the only two proposals that might reduce truck traffic is entirely piecemeal, and could be implemented by Cambridge without the participation of any other communities.

The test of the nighttime ban, as admitted by CTPS, was meaningless. Not only was no demand elasticity recognized, there was not even the possibility of shifting trips to the daytime. Forcing the same small number of trips to go somewhere else at the same time yielded some small increases in Somerville, of dubious validity.

The Cambridge Truck Committee recommended evaluation of a truck route incorporating Fresh Pond Parkway, Massachusetts Avenue, and Somerville Avenue. This was not tested, nor were any other truck routes tested.

Induced Demand

All of the presentations by staff and the City Manager at the public meeting promoted the concept of "share the pain." This is a philosophy we heard no end of from City staff at meetings of the Cambridge Truck Committee. The philosophy asserts that the total number of truck trips in the region is fixed and immutable, any attempt to reduce that magic number would topple our economy, and the best we can do is all suffer together.

This "share the pain" concept is without merit, and should be completely discarded. The number of truck trips that occur in a given time period is a function of the cost to the trucker for the trip, including out-of-pocket costs, driver time or travel time, and delay and other costs imposed by police officers. These costs can be regarded as the "price" of the trip. In travel markets, as in any normal market, when the price goes down the quantity demanded goes up. The reverse is also true: increase the price of travel and the amount of travel goes down. This simple relationship is called demand elasticity.

All economists understand demand elasticity, but apparently no traffic engineers. There is no recognition of elasticity in the CTPS model (EMME II), or in any other traffic assignment model. These models are based on the assumption that the number of trips generated

is unrelated to the price of travel. Hence, when CTPS “tests” an alternative policy in its model, the answer is already assumed, i.e., no change in overall trips. Therefore—in these models—it does not matter whether an alternative makes truck travel easier on some routes or harder on some routes: total truck traffic stays the same.

In reality, this is not the case. If trucks are allowed to move more freely, travel times for trucks will be decreased, and there will be more vehicle-miles of truck travel due to induced demand. If CTPS is having difficulty incorporating demand elasticities into its forecasts, I can provide suitable methodology and appropriate values that we use at the US DOT.

Recommendations

To put it succinctly, the alternatives tested by CTPS were bogus, and most would make truck traffic increase in the region were they to be implemented. If this study is to serve any useful purpose, it should:

1. Explicitly incorporate demand elasticity into all forecasts or “tests.”
2. Test truck routes as a primary strategy, supplemented by exclusions where needed.
3. Test primarily alternatives that increase truck restrictions, and omit those that relax restrictions, unless otherwise noted.
4. Test removing the ban on hazardous cargo in the Prudential Tunnel.
5. Test restrictions that require heavy vehicles to remain on regional expressways until they have a local destination.
6. Test internally consistent packages of regional alternatives, not piecemeal alternatives.

COMMUNICATIONS & REPORTS FROM
CITY OFFICERS

Communication from Councillor Davis,
Chair of the Transportation, Traffic &
Parking Committee, transmitting a
communication regarding the Regional
Truck Study public meeting held on
Oct. 3, 2000.

In City Council,
November 6, 2000

Placed on file

*Councillor Davis requested
copies be sent to City
Manager & Director of
Traffic, Parking, & Transportation
(Copies sent 11/8/00 @)*