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**Engineer proposes I-45 tunnel**

**Heights resident says expansion alternative less harmful to area**

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**A Heights engineer believes a tunnel under Interstate 45 would alleviate problems associated with widening the freeway.**

**Gonzalo Camacho, a public engineer and member of the citizen group called the I-45 Coalition, has spent the last three months presenting a plan to local civic groups, city officials and the Texas Department of Transportation that would turn I-45 between Beltway 8 and downtown into a tunnel.**

**The proposal, Camacho said, would have significantly less negative environmental impact and would create far less disruption for both commuters and neighborhood residents than proposals by TxDOT that call for the creation of four "managed lanes" in the center of I-45.**

**Camacho first presented his tunnel concept at a public meeting on the proposed highway expansion hosted by state Rep. Jessica Farrar, D-Houston, in April.**

**Since then, he has met with representatives from TxDOT, the city's planning commission, and community groups like the Downtown Management District to discuss the plan.**

**Camacho presented his tunnel proposal to Gary Trietsch, district engineer for TxDOT.**

**Norm Wigington, a spokesman for the transportation department, said TxDOT is incorporating Camacho's ideas into the "citizen input" section of its analysis on what to do with I-45.**

**"When we get a proposal like this, it's given to our engineers who check to see if it's viable," he said. "We're still looking at several months before we decide what to do."**

**Last week, Camacho met with about 50 Heights-area residents at the Proctor Plaza Neighborhood Association's monthly meeting.**

**TxDOT has proposed expanding I-45 to include four lanes down the center of the freeway that would be used as high-occupancy or toll lanes.**

According to the department, that concept would reduce the number of cars that use the main lanes of I-45 from what it is saying will be about 270,000 per day by the year 2025 to about 250,000 per day.

About 224,000 cars per day now travel along I-45 between Loop 610 and I-10.

### **Residents skeptical**

But TxDOT's proposal has been met with skepticism among residents.

The department has admitted that in order to complete the managed lanes project, it will have to purchase additional right of way along the freeway to expand I-45's shoulders.

People who live close to the freeway are worried the expansion will cost them their homes.

Others, such as Dr. Winifred Hamilton of the Baylor College of Medicine, have said the negative health effects on nearby residents — including students in the 24 schools located within one-half mile of I-45 — that would be caused by expanding the freeway outweigh the positive effects the expansion would have on mobility.

For Camacho, president of Camacho & Associates, a traffic and transportation engineering company, building twin, double-decker tunnels to replace the current I-45 would reduce air pollution, negate the need for the acquisition of right of way, and put Houston at the cutting edge of transportation technology in the country.

"We are so focused on building highways, we forget about building communities," Camacho told Proctor Plaza residents. "If you don't believe this is going to affect you, drive out to I-10 and see how that project has affected the entire community around it.

"The outcome of this proposal, when you add the shoulder expansion, will be that the size of this highway will double."

### **The longest tunnel**

Camacho's proposed tunnel would be 14.5 miles, which would make it the longest tunnel in the United States.

The tunnel would stretch from downtown at U.S. 59 to Greenspoint.

**"In traditional construction, you're looking at surface disruption, lane closures, traffic delays and negative economic impact," he said. "Construction on I-10 and (U.S.) 59 has divided neighborhoods. During tunnel construction you've got no surface impact, limited traffic delays, reduced potential for crashes, and no additional right of way purchase.**

**"You've also got the possibility of added green space and cleaner air."**

**That cleaner air would come from a filtration system that all tunnels have, Camacho said. By filtering the air, he said 90 percent of the air pollution associated with car exhaust and other fumes would be processed through an above-ground air purification plant — likely more than one for a project this size — that would have to be built.**

**There would be vents inside the tunnel that would collect the "bad" air, send it up to the plants, where it would be processed and turned into "clean" air.**

**"The only option that provides air purification," among an at-grade project, a depressed freeway, an elevated freeway and a tunnel, Camacho said, "is the tunnel. Studies have shown significantly higher asthma rates among children, higher cancer rates among all people who live or work or go to school within 1,000 feet of a highway."**

**Camacho said the recommended depth for tunnel construction is 100 feet. The existing portions of I-45 that are currently below grade are at 23 feet.**

**While construction on the tunnels takes place, he said the current freeway will be able to remain in use.**

**And once the project is completed, the current freeway would be able to be used for, among other things, additional green space, hike and bike corridors, roads for local traffic, and a Metro rail that would allow people to travel from Greenspoint to downtown.**

**He compared the proposed Metro rail line to a similar line in Dallas that runs parallel to the Central Expressway and allows people who live north of downtown Dallas to travel to the inner city using public transportation.**

### **Designed not to flood**

**Camacho also called tunnels a safer alternative to traditional freeways in times of flooding.**

**"First of all, tunnels are designed not to flood" because of elevated entry-**

and access-ways, he said. "I-45 is a hurricane evacuation route, but the wet roads lead to traffic delays and a huge increase in the possibility of accidents.

"A tunnel provides dry lanes. The bottom level of the tunnel can also become a drainage tunnel in case of a flooding emergency. Once the flooding ends, you dry out the tunnel and it becomes usable again."

While the majority of the examples of successful tunnel projects Camacho cited were in major European cities such as Munich, Sydney and on the English Channel, he also pointed to tunnel projects in Hampton, Va., and a 2.5-mile tunnel being proposed by the Dallas Department of Transportation in that city.

"This is not a foreign concept," he said.

### Project costs

Cost of the tunnel project would be about 25 percent higher than that of an at-grade project, Camacho estimates.

By comparison, he said an elevated highway would cost about 85 percent more than an at-grade project, and a depressed freeway would cost 40 percent more.

Camacho said a proposal made by the Hines Corp. that would depress I-45 was rejected by TxDOT.

"The (tunnel construction) process would be faster than normal construction, and you can do it without affecting existing traffic," Camacho said, adding that the process would also not have to include utility relocation. "You can build several hundred feet a day.

"What this is is an opportunity to do an analysis and collect data to see if this is a good idea," he added.

"You don't have to move I-45 further into neighborhoods in order to do something effective."