

TURKEY'S TRAFFIC

Meet the brains behind Istanbul's transport solutions.



CENTURY-OLD TRAMS SHUTTLE TOURISTS VISITING FROM

Brazil, China and the Arabian Gulf. Passenger ferries dodge cargo ships from São Paolo, Suez and Singapore. Underground, Istanbul's transport system is even more exciting. The world's newest undersea tunnel burrows beneath the Bosphorus, the waterway that splits the city in two. It connects 80km of Metro tunnels that weave below a vast UNESCO World Heritage Site.

Yet it's not enough. In Istanbul, a commendable 11 million commuters use the public transport options detailed above. But if this growing city of 14 million is going to solve its transport problems for good it needs to think outside the box. Fortunately, some of the brightest brains are currently working on radical solutions – that could serve as a model for megacities from Cairo to Kolkata, from Jakarta to Shenzhen.

These strategists aren't the first to seek a solution. Sultans like Suleiman I planned to ease Bosphorus traffic by creating a canal to link the Black Sea with the Mediterranean. This plan was recently revived by Turkey's current president Recep Tayyip Erdoğan. During the time of Abdülhamid I the world's second underground Metro system after London (known as Tünel) linked the Golden Horn in European Istanbul with the boutiques of Istiklal Caddesi. It was pulled by horses.

Whatever the solution, it had better be quick. Istanbul is the largest urban area in Europe and the fifth-largest metropolitan city in the world. Rural to urban migration combined with high population growth expanded the city from one million in 1950 to two million in 1970. From 2008 to 2012 an extra one million residents were added to the city alone according to data from the Turkish Statistical Institute. Estimates push the population to 18 million by 2025. We asked four Istanbul transport experts what could be done.

BRAIN 1: Selva Gürdoğan and Gregers Tang Thomsen, Directors of Superpool (superpool.org)

IDEA: Less cars, more driverless minibuses

Gregers Tang Thomsen, co-founder of award-winning architectural agency Superpool, is clear about what won't solve Istanbul's traffic problems. "More cars won't help," he says from his design studio above the transport hub of Karakoy. "In Istanbul we have age-old problems with parking. And more recent problems with the Gezi Park protests over public space. So the key isn't to build more roads." Thomsen dismisses the idea of the third Bosphorus Bridge, which is currently under construction near Istanbul's Black Sea suburbs. "The first two bridges in 1973 and 1988 simply poured traffic in Istanbul's historic centre. What did you guess would happen?"

Superpool highlighted a time-honoured Turkish solution, based around dolmuş minibuses, back in 2011. "Dolmuş shared minibus taxis have been cruising Istanbul since the 1970s," explains Thomsen. "Each one eliminates twenty vehicles from Istanbul traffic, freeing up valuable space for new ideas in the city." But no comprehensive map existed for these owner-driver operated routes, many of which are improvised around irregular road works or evening traffic jams. As newcomers

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make up a large number of Istanbul residents, Superpool made a "clear transport document to visualise this seemingly ungraspable system". The result – a stylised transport map free to download online (takeaway-istanbul.com) – received the ultimate accolade. Its design was copied wholesale by the Istanbul municipality for their new transport route map.

Superpool weren't finished there. Their multinational team took the dolmuş plan one step further. The concept is summed up by Thomsen's Turkish business partner (and wife) Selva Gürdoğan, a graduate from Rem Koolhaas' renowned architectural agency: "Shared transport rather than private transport will always allow a greater number of people to travel at once."

Gürdoğan envisages a social-media inspired shared transport solution using driverless dolmuşes. Log-in to the system, alert a dolmuş to your location (as mentioned, these minibuses don't have regular "stops") then hop on. Importantly, the redundant parking spots outside one's home can then be rented out for dolmuş credits, which can be used on future journeys around the city. Sounds sci-fi?

It's not. Smartphones are ubiquitous in Istanbul and the driverless technology is nearly there.

BRAIN 2: Leyla Arsan, CEO of TAGES and city-app project CitySDK (citysdk.eu)
IDEA: Hackable city transport apps

Here's a novel city transport plan. Lend locals the data and technology to style a digital solution themselves. That was the idea of CitySDK, a project from EU project planners TAGES. As project director Leyla Arsan explains, "workable products should not be one-size-fits-all", but "hacked" to fit a certain challenge.

"In 2012 TAGES rolled out the CitySDK toolkit in eight cities," explains Arsan. "It provides all the information you need to begin developing applications suitable for your city." Techies are then given access to city transport data – real time traffic data, parking places, points of interest from schools to hospitals – in order to model a bespoke product. The resulting creations were astounding.

"We disseminated these tools to Istanbul's developer community," continues Arsan. "We also organised Hackathonist. Here rival developers were given open

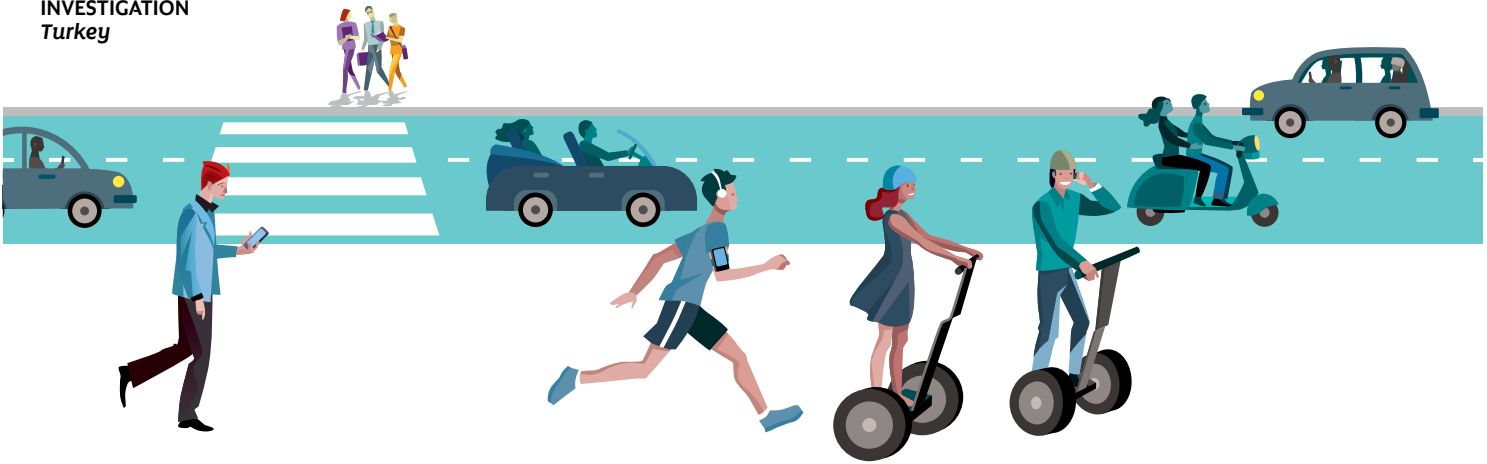
transport data to create applications to improve public transport or traffic services." Because of the variety of vehicles in Istanbul (it includes monorails, cable cars, trams and catamarans) the most useful app was a journey optimisation programme. An app that uses passenger data to optimise the loads of Metrobuses (100-person mega-buses that run on dedicated road "tracks") was also developed. Several data-led solutions are currently on trial with the Istanbul Metropolitan Municipality.

For TAGES the story can't stop there. "There could be countless apps for bettering citizens' lifestyles worldwide, as long as each municipality offers CitySDK standard open transport data". Arsan says it doesn't matter if the developer is Egyptian, Dutch or Turkish, "or if the solution is for Cairo, Bangkok or Jakarta," as the kit is scalable for any solution. "The CitySDK project is part-funded by the European Union," explains Arsan. "We're keen to assist with consultants, technical people or organising hackathons across the globe".

BRAIN 3: Arzu Tekir, Executive Director of Embarq Türkiye (embarqturkiye.org)

IDEA: Pedestrians first, motors second

Arzu Tekir makes a good point. "When we look at the 'most liveable cities' (a list that includes Copenhagen, Melbourne and Vienna), the top ones invest in sustainable urban mobility and transit-oriented development." In simple terms, her job is to tell city leaders what solutions have worked in other global cities – and then tell them how they could implement those ideas at home. "Traffic congestion costs Istanbul around \$2.5m per year, and people spend up two hour hours a day in traffic, so the city authorities were keen to listen".



"VOLT CONNECTS PEOPLE WITH DRIVERS GOING IN THE SAME DIRECTION." USING THE TAGLINE "DRIVE WITH SOMEONE LIKE YOU", ISTANBUL'S BRAND NEW RIDESHARING APP USES YOUR FACEBOOK NETWORK AND LOCAL COMMUNITY TO MATCH EMPTY CARS WITH PAYING PASSENGERS.

But Tekir's job isn't to boss people about from afar. Her non-profit Embarq organisation can call on assistance from sister bureaus in India, Brazil and China, but her team of urban planners and transport engineers in Istanbul call the shots. She can therefore "graft a global solution onto a very local problem". A case in point is Tekir's massive Istanbul pedestrianisation plan. It's part of Embarq's Avoid-Shift-Improve ethos, which improves urban mobility by reducing the need for motorised trips then pushing passengers towards smart transport instead.

Her pedestrian plan involved surveyed locals before it liaised with Istanbul's municipality – a local government body that's larger than most countries. "The Historic Peninsula is both a key commercial centre for Turkey and a UNESCO World Heritage Site," explains Tekir. By rerouting trams and allowing commuters to walk the final metres to work (assisted by new signage and feet-friendly pavements) her Embarq team helped the local authority to turn 295 ancient streets into a traffic-free zone. Air pollution is down. Commerce is up. "Sustainable transport is a win-win scenario. You reap rewards across multiple areas, without spending millions on one single showpiece."

According to Tekir, the powerful mayor of Istanbul, Kadir Topbaş, is happy to try innovative solutions on his millennia-old city. "We've told his planning department that non-motorised transportation – walking and biking – must be included in any metropolis's master plan." Her team's 'BikeLab' reviewed European Istanbul's first bike lane. This three-kilometre route was too small to be a citywide solution. And importantly for Embarq's strategy, it didn't connect to the city's other transport modes, like the Metrobus, tram and ferries. So Tekir's team has proposed a 23km lane along the Bosphorus from the Beşiktaş football stadium to Sarıyer near the Black Sea, which links every transport hub en-route.

"Bicycling is an ideal mode of transport," she explains. "Bikes don't create exhaust fumes or noise pollution and can flow around traffic congestion. And because bicycles are a more time efficient alternative to cars, statistics show us that more cyclists in town centres means less traffic crashes."

Tekir's Istanbul masterplan seems to have worked. She is now concentrating on BikeLabs in the burgeoning Turkish cities of Konya, Kayseri, Antalya and Izmir.

BRAIN 4: Ali Halabi, Founder of Istanbul ridesharing app Volt (thevoltapp.com)

IDEA: Filling single driver cars with paying passengers

In their own words: "Volt connects people with drivers going in the same direction." Using the tagline "Drive with someone like you", Istanbul's brand new ridesharing app uses your Facebook network and local community to match empty cars with paying passengers. "We started Volt for one reason," director Ali Halabi says. "Some 70 percent of cars sitting in Istanbul's traffic have only the driver in them. Our app can reduce the number of cars needed, and therefore let traffic flow faster."

Surely traffic would be reduced further if we all took the bus? "I'm a big fan of public transportation", explains Halabi. "But even great solutions like Metrobus still lack the convenience and speed of a car." If Istanbul residents insist on using private transport, he reasons that increasing their occupancy is the next best thing.

Halabi's concept is certainly workable. Volt logs your departure and destination requests via your smartphone, then connects you with a driver who can be thanked with gas money paid via the app. It's that simple. For added safety, passengers may connect with their mutual ride-share friends online before they depart. They can also rate and review drivers and fellow passengers, which creates a trusted social community in itself.

After reaching their growth targets in Istanbul, Ali's colleagues plan to expand in other Middle Eastern cities. "The driver wins because he saves on gas, the passenger wins on convenience and cost, and the city wins as traffic is reduced. What's not to like?" 🚗

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