

Laos: Infrastructure/Means & Methods

Executive Summary. You're probably reading this from America or Canada. Ever wonder what the infrastructure and construction means and methods are like in a smaller less developed country like Laos? [For those who haven't tapped into Google yet to find out where Laos is, it's a landlocked country adjacent to Vietnam (to the west) in Southeast Asia.]

Country overview. Laos is a country of about 8 million people. They speak a language called Lao which is similar to Thai, and nothing like Chinese or Vietnamese. Their currency is called the kip, and there's about 9,000 kip to the US dollar. Coffee and an omelet run about 25,000 kip at my nice guesthouse.

Infrastructure overview. I went to Thakhek and Xeno (pronounced Seno), which are larger than villages, and probably best classified as towns. So, therein lies my basis for the following information.



Vehicles and roads. There were scooters (aka motorbikes), cars/SUVs/pickup trucks, tuk tuks, buses, and bicycles, in this order of popularity. Those that didn't have access to any of these vehicles walked. I traveled on a rented Yamaha scooter and traveled at a top speed of 80 kph (~50 mph). Drivers drive on the same side as in America and Canada. Of the 600 km I drove, probably 25% was on dirt, 5% on concrete pavement, and the balance on asphalt. Roadway drainage exists in the way of crowning and superelevation of roadways to reinforced concrete pipe. Multi-lane highways with flyover bridges do not exist.

Bridges. Every civil engineer loves bridges, and this one is no different. The vehicular Friendship Bridge which crosses the Mekong River from Thailand to Laos was built in 1994 and funded by the Australian government; it serves as the border between Thailand and Laos. This is also the river by which many Lao now in America escaped their country to flee Communism in the 1970s and 1980s, I believe.



Anyway, the rural bridges I saw were shallow foundation timber columns supporting wood decking. The piers were laterally supported by knee braces into nearby soil. They did not vibrate or bounce when I drove over. The other rural bridges appeared to be part of an international financial injection. I say that because they were “traditional western-style” bridges with abutments, concrete beams, and a cast-in-place deck. However, there was no approach slab, but rather half a dozen scaffold planks installed on the flat on a 2:1 slope up from the dirt road subgrade to the concrete deck. My egress from the other side of the bridge was identical – a 2:1 slope down to the dirt road 5’ below. It’s like the Lao people said “we’ll take your new concrete bridge, but we’re not going to bring the accompanying road up the any sort of standard”. A truck could not use the bridge, if one was passing by he had to take the low road through the ravine or stream. I imagine that this would be impassable in the wet season, which late December/early January was not.



Residential construction. Rural areas had homes on timber piles (likely to avoid flooding and bugs) with wooden floors, single panel wood planking, and thatched roofing. Middle class homes had concrete slabs on grade, CMU walls, and perhaps slender concrete columns. The societal upper 1% had very nice homes, comparable to those in North America.



Water. Where I saw the source at, say, a dwelling, it was via deep well and small pump. In villages, I observed storage in an elevated tank, and then in a town it was again stored in an above ground concrete tank. I drank bottled water or boiled my water out of the faucet for morning coffee.

Wastewater. You know, I didn't exactly ferret this one out, but I'm quite certain there was no treatment plant in any of the locations I visited. I also never saw waste dumped in a river or gutter. I did observe a pit toilet (a hole in the ground with, to an American, impossibly placed foot pads to facilitate squatting for #2, while sharpshooting like usual if you're going #1). Toilet paper could be flushed (could not flush it in the Thai Airlines Lounge at Bangkok International Airport).



Dams. Well, dammit, I didn't get to one. I know little of the history of dams and Laos, but I have surmised that many outsiders have come into Laos and dammed up their rivers for power and I presume irrigation. I've seen the Laos movie called *The Rocket* and this seems to be the theme. I did observe a downstream manmade controlled waterway which my Lao friend said was downstream from a dam she had worked at months or years prior.



My story. I'm sure you're wondering what, why, and how Laos for me? Having lived in Hawaii for almost 19 years, the melting pot of Asia and America, I learned about the Lao culture and its people in Hawaii. I now speak a bit of Lao (*Khoi wow pasa Lao noi neung...jeow die baww?*, which means *I speak a little bit of Lao, can you?*).

From a civil engineering perspective, I assume that Thakhek and Xeno represented the Lao version of Everytown, USA. By American standards, these towns were poor, underdeveloped, and 100 years behind us in their development. And after having been to this area of the world more than once, I find no inadequacy in the level of infrastructure here as it is wholly functional for the people. People in North America may say the Lao people "know no better" infrastructure – this is to me an arrogant statement. What they have serves the purpose and when and if they grow by millions more, it will then be appropriate to step up their civil infrastructure.

Work safe!



