

## CAN THERE BE ECONOMIC DEVELOPMENT WITHOUT BASIC INFRASTRUCTURE?

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Basic infrastructure consists among other things of roads, energy supply systems, water supply and sewage treatment systems, ports, airports. These are things that are needed by society in order to function properly. Basic infrastructure cannot be funded by private companies, because it cannot generate a direct profit. The business of government is not to make profits, the business of government is to build essential infrastructure.

What is the current state of East Timor's infrastructure?

- Roads: in very bad repair
- Energy supply: there is a brand new electrical network, but not enough fuel. We need to implement a cheaper and more reliable source of fuel
- Water supply: exists only in towns, needs to be upgraded
- Sewage treatment: none exists
- Port of Dili: large enough for present usage. Anyway, a larger port would be held back by roads capacity, assuming it received more traffic
- Airport: acceptable for the three or four flights daily

Together with energy, roads are the major obstacle to any serious development in the country. We will address here the road issue, the energy issue having been covered elsewhere. The road system is very bad and even worse than it was 10 years ago. The reason is that instead of building a brand new quality road system, the government has chosen to do very cheap repairs and rely on foreign aid which does not nearly enough for what is needed.

East Timor needs a network of 1,740 km of good reliable solid roads that will sustain the difficult climate and environment of the country. We all know that when a road is repaired in East Timor it does not survive the next rainy season, because with our geology and climate roads must be built only of reinforced concrete, anchored firmly in the rock or in the soil, and raised one meter or more to withstand our torrential rains and frequent landslides. This is the way roads are built in modern mountainous countries of the developed world, but not in Timor. In addition, there are dozens of bridges to build.

And now the hard part: how much would such a long lasting network of roads cost us? Probably around 12 billion dollars, billion with a "b"! Those roads would not be fancy four divided lane motorways, just regular two lane highways with good pathways for pedestrians and bicycles, 10 meters wide, but on such roads any affordable small car could take you from anywhere to anywhere safely and in comfort and any truck traffic would be accommodated, making transportation affordable and efficient for all.

Now, compare these 12 billion dollars with the amount in the Petroleum Fund, which is \$16 billion.

Of course, this is a huge amount of money, but can we get out of our wretched poverty without good roads? We need to be able to travel safely and with our goods, from Dili to Los Palos or Viqueque in three hours or to Maliana in two and a half or from Suai to Viqueque in 3 hours. There hasn't been any economic development anywhere in the world without first building good roads and providing cheap energy.

Because a lot of money is needed, we would have to stage our efforts and I suggest we list our priorities. I think there should be 3 levels, with 1 being the most urgent. See map in attachment to this paper.

The total is, as I said, 1,740 km, categorized as follows:

- Priority 1: 862 km; \$5.6 billion, to be built within 5 years.
- Priority 2: 401 km; \$2.6 billion, built over 2 more years
- Priority 3: 477 km; \$3.1 billion, built over another 2 years.

The whole effort would take almost 10 years, and we must start soon.

We do have a choice: we can forget about the roads and accept that we will never reach any reasonable level of development, or we can start thinking about how we could finance them.

Let's first concentrate on the first level of priority. We will need \$5.6 billion that could either be coming from the Petroleum Fund (that's 1/3 of it), or could be borrowed against the guarantee of the Petroleum Fund.

If we borrow, the \$5.6 billion will cost us in the end \$10.4 billion over 20 years including interest. If we use the Petroleum Fund we will forgo \$1.7 billion in revenue, but overall we will save  $10.4 - 5.6 - 1.7 = \$3.1$  billion. There is no question that borrowing at 8.5% when we have funds in the bank that only return 3% is foolish.

Once the first tranche is completed we can then decide whether the operation was beneficial: if the regions with good roads and cheap electricity thrive in comparison with the regions without them, we will start tranche 2, and then tranche 3. Building those excellent, reinforced concrete, anchored, raised, solid roads will also allow us to affordably install under them all the services we need, like water, electricity, fiber optics for the internet, phone and television, etc.

It is high time that we start thinking about whether it is the best idea for such a poor country as ours to have \$16 billion in the bank and leave it untouched. Are we billionaires, to keep the savings of a billionaire? No, we're desperately poor, with no hope for our future if we cannot use our own money in these ways.

Some say we need to preserve the fund for future generations, but what will the future generations do with it? Keep it for the next one, and so forth, using it only to generate a tiny 3% income every year? The whole idea is preposterous. We need to use that money to build for ourselves and our children the basic infrastructure required by an economy like the one we want.

The concept of a Petroleum Fund was imagined by Norwegians, the one of the richest people on the Planet, who persuaded us into thinking that what was good for them was best for us. Keep in mind that the average Norwegian income is \$83,500 per year per person excluding petroleum revenue! That's almost 300 times as much as we produce in a whole year per person, and that's before their petroleum income, which is 15 times ours and will last much longer than ours! It is easy for the prosperous Norwegian to save one sixth of his very large income, but who is he to command us to save three quarters of our meagre pittance? We need to take control of our destiny and build the country, instead of keeping a fortune under the mattress while we starve.

Who would build those roads? We need to divide the job into 3 or 4 packages and organize an international competition for companies with the best record in difficult mountainous countries such as Japan, Korea, Europe, the U.S. No room for cheap or shoddy work here (and no room for cronyism either).

We would need to appoint an independent regulator and make sure we would help and support the regulator and the winners of the competition instead of making things miserable for foreign contractors, as we are so renowned for. Believe me, this multi-billion project would attract interest from all horizons and would keep a lot of our people busy with work for years. Instead of spending our money on pensions, welfare and benefits while keeping our people either idle or working on useless bureaucratic tasks, we would spend the money on building the great infrastructure without which there can be no bright future, and at the same time we would keep a large part of our workforce busy building it. We all know that no matter what, in a few years the Petroleum Fund will be all spent, so we might as well use part of it to build something of permanent value instead of wasting it pointlessly. With good, solid, permanent roads and affordable energy there is a good chance that our economy will be developed, but without these there is not the slightest hope it will.

We need to act fast and realize that the charity given us by foreign donors in the form of tiny loans or gifts would just be enough to build 10 kilometers of good roads, out of 1,740! The government needs to finally decide that basic infrastructure is an absolute necessity, or else tell us that nothing of real value to the people will ever be done in the country and that we shall all just wait until the Petroleum Fund is exhausted paying the salaries of government and the pensions of retirees, and then face starvation and subjection.

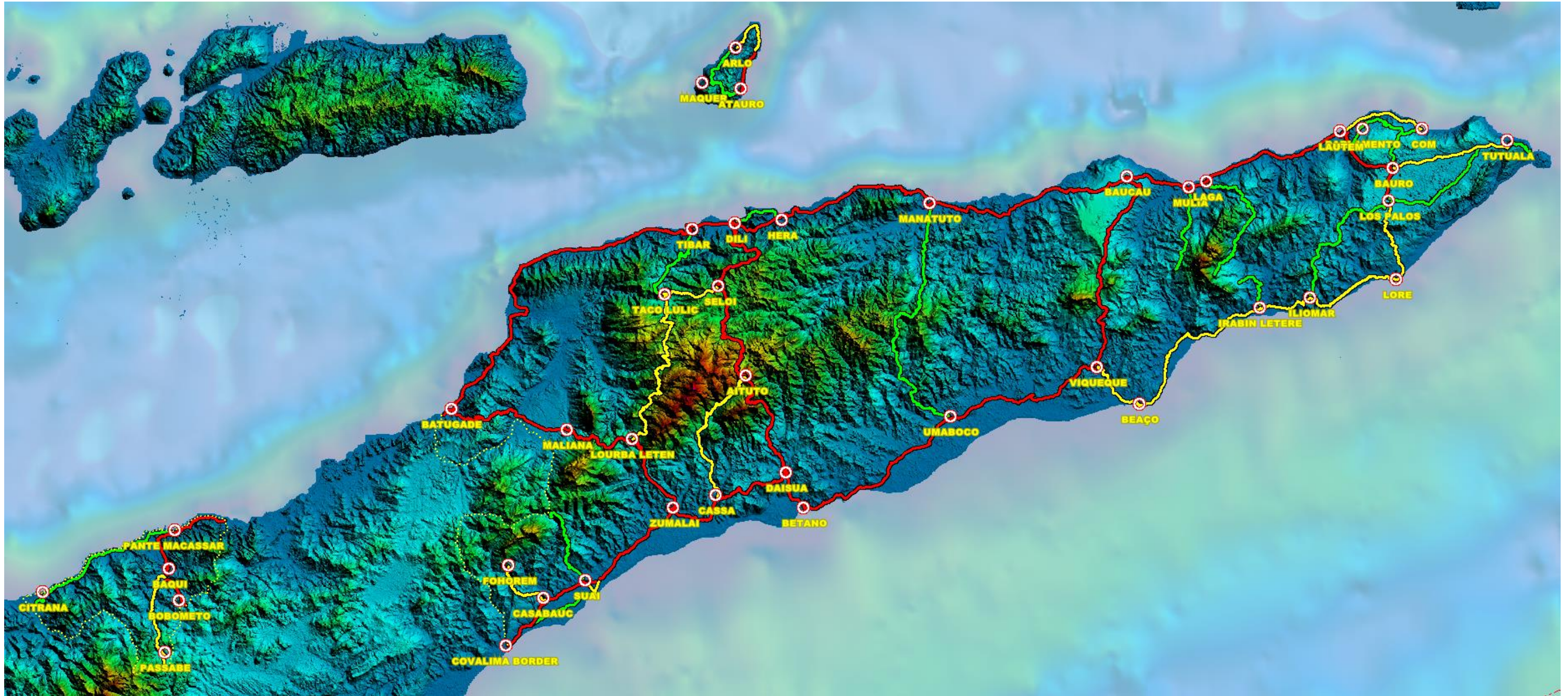
***See table and map below: red for priority 1, yellow for priority 2 and green for priority 3. Routes are exact and most of them surveyed by me. I have the path profile for every one of the 64 sections.***

<b>Priority:</b>	<b>1</b>	<b>2</b>	<b>3</b>
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		km	km	km
<b>Total:</b>	<b>1740 km</b>	<b>862</b>	<b>401</b>	<b>477</b>

1	COVALIMA BORDER	CASABAUC	15		
2	CASABAUC	FOHOREM		19	
3	CASABAUC	SUAI	12		
4	SUAI NORTH ROAD TO BORDER				45
5	SUAI	CASABAUC JCT			18
6	SUAI LOCAL			8	1
7	SUAI SPUR		2		
8	SUAI	ZUMALAI	30		
9	ZUMALAI	CASSA	17		
10	ZUMALAI	LOURBA LETEN	25		
11	LOURBA LETEN	MALIANA	25		
12	MALIANA	BATUGADE	41		
13	LOURBA LETEN	TACO LULIC		75	
14	BATUGADE	BORDER	3		
15	BATUGADE	TIBAR	97		
16	TACO LULIC	TIBAR			29
17	TACO LULIC	SELOI		18	
18	TIBAR	DILI	13		
19	SELOI	DILI	39		
20	SELOI	AITUTO	44		
21	AITUTO	CASSA		47	
22	AITUTO	DAISUA	40		
23	CASSA	DAISUA	24		
24	DAISUA	BETANO	12		
25	DILI	HERA	13		
26	HERA SPUR				14
27	HERA	MANATUTO	50		
28	BETANO	UMABOCO	47		
29	MANATUTO	UMABOCO			85
30	UMABOCO	VIQUEQUE	47		
31	MANATUTO	BAUCAU	57		
32	BAUCAU	VIQUEQUE	67		
33	BAUCAU	MULIA	18		
34	MULIA	LAGA	5		
35	MULIA SOUTH ROAD				26
36	LAGA SOUTH ROAD				45
37	LAGA	LAUTEM	39		
38	LAUTEM	PARLAMENTO JCT W	5		

39	PARLAMENTO JCT W	BAURO	14		
40	VIQUEQUE	BEACO		17	
41	BEACO	IRABIN LETERE		48	
42	URABIN LETERE NORTH				16
43	IRABIN LETERE	ILIOMAR		16	
44	ILIOMAR	LORE		28	
45	LORE	LOS PALOS		25	
46	ILIOMAR	LOS PALOS			46
47	LOS PALOS	BAURO	8		
48	BAURO	TUTUALA JCT		22	
49	TUTUALA JCT	TUTUALA		9	
50	TUTUALA	JACO			8
51	LOS PALOS	TUTUALA JCT			30
52	LOS PALOS LOCAL				4
53	BAURO	PARLAMENTO JCT E			10
54	PARLAMENTO JCT E	COM			5
55	COM	LAUTEM		24	
56	PARLAMENTO SPUR				20
57	PANTE MACASSAR	CITRANA BORDER			46
58	PANTE MACASSAR	EASTERN BORDER	15		
59	PANTE MACASSAR	BAQUI JCT	16		
60	BAQUI JCT	BOBOMETO BORDER	11		
61	BAQUI JCT	PASSABE BORDER		28	
62	ATAURO EAST		11		
63	ATAURO NORTH			16	
64	ATAURO WEST				29



*Path profile example, Manatuto to Umaboco*

