

# CASCABEL WORKING GROUP

6590 N Cascabel Road  
Benson, Arizona 85602  
www.i10bypassinfo.us

February 6, 2008

*The following letters have been sent to a number of people that we have identified as being influential in the matter of the proposed I-10 Bypass Expressway. In order to reach a wider audience, the Cascabel Working Group is making them available on our web site.*

For some time the considerable public opposition to the proposed I-10 Bypass Expressway has been well reported. However, for the most part, the reasons for this opposition have not been explained. To complete the public record, the Cascabel Working Group, a group of residents and landowners in the San Pedro River Valley, has put together a series of brief articles in the form of letters. These letters, each of which will concentrate on a single subject, will be sent over the next several weeks to inform you of the issues as we see them.

In these letters we will discuss the problems of the proposed new expressway from several standpoints. We will show that it will not provide significant traffic relief. We will explain the abysmal economics of this project. We will explore the damage to the general ecology and animals and plants. We will challenge the population growth forecasts. We will also address land development and other considerations.

We hope you will take the time to read each of these. At the end of this series, you will be well informed as to why the proposed I-10 Bypass Expressway is a terrible idea for Arizona and will understand the private interests of the proponents of this project.

Briefly, the background is this. In December of 2006 and January of 2007, Mr. S. L. "Si" Schorr, the Pima County representative on the State Transportation Board proposed a bypass around Tucson and Phoenix for I-10 to relieve traffic congestion in those cities. This resulted in a contract being let by the Arizona Department of Transportation (ADOT) to the consulting firm, URS, to study the feasibility of this proposal. URS turned its preliminary report over to ADOT early in November of 2007 and it was made available to the general public later that month.

A discussion and possible action item concerning the Bypass proposal was placed on the Agenda of the State Transportation Board meeting to be held in Oro Valley on December 21. More than 50 people signed up to speak at this meeting, but the Chair, Mr. Joe Lane, disappointed most of them by restricting the number of speakers to eight for a total of 26 minutes. The Board then deferred any further discussion until the January 18 meeting to be held in Casa Grande.

The Cascabel Working Group feels it is important for you to understand the issues whether you agree with the proposed Bypass or oppose it. Documentation is available for all of the assertions in these letters. If you would like the references, please let us know.

Thank you for taking the time to read this letter.

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*

## *Letter #2 — Purpose of the proposed Bypass*

In this, our second letter in the series, we take a look at the stated purpose of the proposed I-10 Bypass Expressway. In the URS Preliminary report to the Arizona Department of Transportation it was given as:

- To provide an additional high-capacity transportation corridor to accommodate travel across southern and central Arizona.

From this a set of five Needs was formulated:

- Provide an alternative route to I-10 to relieve traffic congestion on I-10 in the Phoenix and Tucson metropolitan areas.
- Provide a shorter, faster route through southern and central Arizona that will attract through trucks and other traffic from I-10.
- Provide a new route that offers an alternative path for I-10 traffic during construction, maintenance, and incidents.
- Provide a new transportation corridor to serve the expected rapid population growth and land development in the Sun Corridor.
- Develop a corridor that is context sensitive to environmental and social elements.

We intend to show that a) no new expressway (high-capacity transportation corridor) across Arizona is needed, and b) none of the five Needs is satisfied by this proposed Bypass. We will address the cost issues, both in money and environmental degradation, that this project would entail. And finally, we will show that the real purpose behind this proposal is to open vast tracts of land to development.

Let us merely note that taking the URS estimates at face value, a dubious proposition, that this new 250 mile expressway across Arizona would cost every man, woman, and child in Arizona \$1,500. It would require energy that could never be recovered through mileage savings. It would disrupt the comprehensive Arizona transportation plan, and make it impossible to complete transportation projects of real value to the state.

The next letter in this series will show conclusively that the proposed I-10 Bypass Expressway wouldn't even make a small dent in Tucson's traffic problem.

Sincerely

Cascabel Working Group

## *Letter #3 — Will the Bypass reduce traffic in Tucson?*

In this third letter explaining the reasons why the 250 mile proposed I-10 Bypass Expressway is a bad idea, we turn to whether it would actually have any significant impact on traffic in Tucson and/or Phoenix. As you will see, the answer is NO!

The URS study reports that traffic in downtown Tucson was 150,000 vehicles per day (VPD) in 2005. This URS forecasts to grow to 300,000 vehicles per day in 2030. They also estimate that the current widening of I-10 to eight lanes would have a capacity of 196,000 vehicles per day.

Quick arithmetic shows that the new expressway would need to divert 104,000 VPD in order to keep the downtown Tucson I-10 section from congesting. Unfortunately, URS calculates that the routes through either the San Pedro or Aravaipa Valleys would reduce Tucson traffic by only 14,500 VPD (in 2030) and 20,000 VPD in 2050. Even the Avra Valley route (allegedly now off the table) offers a reduction of only 32,700 VPD in 2030. In other words, none of the proposed Bypass routes around Tucson would make any significant dent in Tucson traffic. In URS words, "This reduction would help relieve congestion in Tucson by a modest amount." Modest is hardly the word for less than 5% traffic reduction.

The traffic reduction possibilities in Phoenix are even more obscure since none of URS calculations take into consideration the planned 202 and 303 routes. Although the claim is made that all proposed expressways in Phoenix will be operating at full capacity by 2030, they do not let us know what that number is. They do, however, state that the western segment of the proposed Bypass would relieve I-10 by 44,100 VPD in 2030. Presumably, this is a significant fraction of the expected traffic at that time even though current Phoenix I-10 traffic exceeds 300,000 vehicles per day.

At this point, we feel compelled to remind you that the URS cost projection is \$6-8 billion. As we also noted, highway projects never come in on budget, but are often more than twice as expensive as has been forecast.

In addition to the cost of this "modest" reduction in congestion, we should not be willing to sacrifice one of the last pristine rural areas in Arizona, the San Pedro River Valley.

Sincerely

The Cascabel Working Group

## *Letter #4 — How much would the proposed Bypass cost?*

In this letter, we will discuss the cost of the proposed 250 mile I-10 Bypass Expressway. The URS preliminary report gives us the estimate of \$6–8 billion. We believe this cost estimate to be extremely optimistic. URS arrives at this by using some crude rules of thumb, based (according to URS) on their experience and 2006–2007 prices. They purport to estimate based on unit cost per mile with individual estimation for interchanges, railroad crossings, and river crossings. Their estimate assumes “one traffic interchange and one grade separation would be constructed for every 2 miles in urban areas, and every 5 miles in rural areas.”

In spite of that statement, a careful inspection of their tables shows that they have not followed their own guidelines. As an example, it is claimed that the 60 mile segment up the San Pedro River Valley would have only one half-interchange and no river crossings. Clearly, their estimates are seriously flawed, evidently for the purpose of making the proposed expressway more “feasible.”

But worse, when judged against the experience of other states, the URS estimate looks even more suspicious. In 2004, the Washington State Department of Transportation (WSDOT) did a comprehensive study of highway construction costs, reviewing a total of 36 projects from Alaska to Boston. Among other things they found:

The most significant factors in variations in costs per lane mile are:

- Structures and interchanges: Projects that have structures and interchanges have a much higher cost per lane mile.
- Right of way: If a project can be built within an existing right of way, its cost per lane mile is much less than a project that needs additional right of way.
- Environmental impacts: Mitigation costs for environmental impacts have a dramatic effect on cost per lane mile.
- Existing soil and site conditions: Difficult soil and site conditions also significantly raise the cost per lane mile.

WSDOT also found that of the 36 projects studied, one-third had lane-mile costs greater than \$10 million. That is a great deal more than the median number put forth by several Departments of Transportation. This might account for the results of a major Norwegian study of 258 highway constructions projects around the world in which 90% ran over budget by more than 20%.

To summarize our opinion, we feel that ADOT and URS are overly optimistic in order to improve their chances for winning approval of this new expressway plan. In our opinion, even if they are correct, the cost of \$1,500 for every man, woman, and child in Arizona is too much.

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*

## *Letter #5 — Do we need the Bypass for an alternate route to I-10?*

In this letter, we explore the need for an “alternate” route to I-10. The proposed I-10 Bypass Expressway, in theory, is to be used as an alternate to I-10 in the event of accidents, construction or other incidents. It has been claimed that Tucson is the largest city on I-10 with no alternate route around the city. This is not only not true (El Paso is larger), but alternate routes are actually very rare throughout the entire Interstate Highway System. Only a few big cities like San Antonio and Houston have alternates and these are usually through urban areas. Only New Orleans and Phoenix have rural alternates — in the case of Phoenix, SR85 and I-8, and in the case of New Orleans, I-12 around the north shore of Lake Ponchartrain.

Let’s take a virtual trip across I-10 from the eastern outskirts of the Los Angeles metroplex, somewhere in the vicinity of San Bernardino, to the Atlantic Ocean. Driving east we will find the following major population centers:

| <b>City</b>                              | <b>Population</b>                           | <b>Alternate availability</b> | <b>Alt type</b> |
|--|---|-------------------------------|-----------------|
| Coachella Valley<br>(9 conjoined cities) | 410,000                                     | no alternate                  |                 |
| Phoenix                                  | 1,462,000                                   | SR85 and I-8                  | rural           |
| Tucson                                   | 516,000                                     | no alternate                  |                 |
| El Paso                                  | 599,000<br>(+1,301,000 in<br>Ciudad Juarez) | no alternate                  |                 |
| San Antonio                              | 1,257,000                                   | I-410                         | urban           |
| Houston                                  | 2,017,000                                   | toll road or I-610            | urban           |
| Beaumont-Port Arthur                     | 385,000                                     | no alternate                  |                 |
| Lake Charles                             | 194,000                                     | I-210                         | urban           |
| Lafayette                                | 239,000                                     | no alternate                  |                 |
| Baton Rouge                              | 222,000                                     | no alternate                  |                 |
| New Orleans                              | 455,000 (pre Katrina)                       | I-12 around Lake Ponchartrain | rural           |
| Mobile                                   | 192,000                                     | no alternate                  |                 |
| Tallahassee                              | 159,000                                     | no alternate                  |                 |
| Jacksonville                             | 783,000                                     | alternate via I-95            | urban           |

I-10 connects numerous population centers, but the only ones with anything remotely having an expressway class alternate are San Antonio, Houston, and New Orleans. Only New Orleans has an alternate that doesn’t enter its urban area, and its alternate is only 80 miles long.

URS has provided no estimate as to how often such an alternate might be needed. So, providing Tucson with a 150 mile expressway as an alternate that would not be useful in travelling from the southeast side of Tucson to the northwest side does not seem sensible, does it?

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*

## *Letter #6 — Would the proposed I-10 Bypass be shorter and faster?*

Thank you for reading our messages this far. This is letter number six in our series, and will be devoted to whether the proposed I-10 Bypass Expressway would provide a shorter, faster route across Arizona.

To provide a little framework, let us note that the current distance from California to New Mexico using I-10 is just under 400 miles by ADOT's measurements. The proposed new Expressway would be about 250 miles in length from Willcox to Buckeye. It would reduce the distance between California and New Mexico by 16–25 miles if the San Pedro or Aravaipa routes were chosen, and increase the distance by 18 miles if the Avra Valley route were to be chosen.

For the purpose of this letter, we take the following assumptions from the URS preliminary report. First, we will take the maximum potential distance saving as 25 miles. Second, we will take the traffic diversion from Tucson of 14,500 vehicles per day in 2030 as the average traffic on the new expressway over the next 30 years. Third, we will assume the cost of the new expressway does not exceed the \$8 billion that URS projects. From this we do a little arithmetic:

If 14,500 vehicles per day each save 25 miles, the saving is 362,500 miles per day. Over 30 years that will amount to just under 4 billion miles saved. Since the expressway is expected to cost \$8 billion, it is easy to see that we would be asking the taxpayers to spend \$2.00 to save drivers one mile. If we asked the users of this expressway to actually pay \$50 to save themselves 25 miles, how many do we think might do so?

So much for shorter. How about faster? At the legal speed limit, the travel time between California and New Mexico is just about 5 hours and 42 minutes. The savings from the new expressway would be about 30 minutes, hardly a major incentive. Now it is true that occasionally traffic is congested in either Tucson or Phoenix, but most long-distance drivers try to avoid peak rush hour times in driving through metropolitan areas.

Neither the savings in distance nor the savings in time seem worth an expenditure of more than \$1,500 for every man, woman, and child in Arizona.

Think about it. If you were driving between New Mexico and California, how much would you be willing to pay to save 25 miles?

Sincerely

The Cascabel Working Group

## *Letter #7 — What would the Proposed Bypass do to wildlife in Arizona?*

This is the seventh in a series of letters from the Cascabel Working Group written to assist you in understanding the issues surrounding the proposed I-10 Bypass Expressway and why our group opposes it.

This letter addresses the damage that such an expressway would likely do to the wildlife in the San Pedro River Valley and the Aravaipa Valley. This is not an inconsequential question, since due to the convergence of four major ecoregions – Rocky and Madrean mountains, Chihuahuan and Sonoran deserts – this area contains the highest diversity of mammal species in North America, and in fact represents the greatest biodiversity of any landlocked area in the U.S.

In recognition of these well documented facts, the URS report acknowledges that The Nature Conservancy, Bureau of Land Management, Bureau of Reclamation, Salt River Project, Pima County and others have spent millions on protecting nearly 200,000 acres of conservation lands and allotments here. Yet URS minimizes an expressway's potential impacts on wildlife as much as possible. For example (our emphasis added),

“None of the refined alternative corridors appear to have environmental *fatal* flaws; however, several of the alternative corridors would pass *near* environmentally sensitive lands and would *intersect* wildlife linkages.”

The URS report grants that, not surprisingly, these agencies and organizations which have actually done the science to support their multi-million dollar investments vociferously disagree. Those wildlife linkages are critical, and no amount of mitigation can undo the damage of an expressway's 6-mile-wide strip of influence (as the report states) down these sensitive valleys. That said, they then report the even larger problem:

“The main concern with a corridor passing through these areas is the positive correlation of urban growth and development from a highway, which could increase groundwater withdrawal rates. ...Groundwater impacts would undo years of conservation and restoration efforts by agencies and organizations in the San Pedro River Valley and Aravaipa areas. Furthermore, a highway could negatively impact existing successes that have resulted from many years and large funding requirements for restoration and conservation efforts.”

Yet URS and ADOT have concluded that this path is “feasible” from the standpoint of damage to wildlife, and calls for further NEPA studies. But the studies have been done. The San Pedro River Valley, due to its international importance (as you will see in our next letter), is one of the most studied watersheds in the world. These are not the judgments of a local NIMBY group, but the assessment by these agencies and organizations based upon extensive research and attested with the vote of their dollars.

As the Southwest Center aptly calls it, this is “The Last Living River of the Southwest.” Do we really need any more examples to demonstrate that the fate of the San Pedro and its wildlife would follow that of the Colorado, Santa Cruz, Salt River, and Rio Grande? This is not just our backyard; it is the Southwest's backyard – our country! These groups and we do not agree with URS and ADOT, and hope that you will not agree either.

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*

## *Letter #8 — A little information about birds and fish*

The San Pedro River Valley is the main flyway for migrating birds in the West. As reported by the tri-national Commission for Economic Cooperation (CEC) funded by NAFTA, it supports nearly ten times the populations of any other route. The CEC was prompted to their study of the San Pedro because with the decline of insect eating birds in Mexico, the U.S, and Canada, their logging industries were experiencing mounting losses due to insect predations.

The San Pedro River has its headwaters in the Mexican state of Sonora, and is the last major river in the American Southwest with no dam. It flows northward for approximately 140 miles until it reaches the Gila River near Winkelman. It represents a ribbon of water and riparian vegetation between the deserts of northern Sonora and southern Arizona in its southernmost reaches and Arizona's Central Highlands in the north. On either end of this funnel, Spring and Fall migrating birds fan out into South, Central and North America.

Along its length it exhibits a remarkable variety of birds, both in resident and migratory species. Over 100 species of breeding birds and another approximately 250 species of migrant and wintering birds are found in the area. This represents roughly half the number of known breeding species in North America. The San Pedro River Valley serves as a migratory corridor for an estimated 4 million migrating birds each year.

This area was designated the first Globally Important Bird Area by the American Bird Conservancy in 1996 and has been recognized as a major bird area by the Audubon Society. Furthermore, the lower reaches of the San Pedro River are currently subject to intensive survey efforts, largely conducted by Arizona Game and Fish Department biologists, for the endangered southwestern willow flycatcher. Much of the 60 plus miles of its critical habitat would be traversed by the proposed I-10 bypass route through the San Pedro Valley.

Aravaipa Creek, a major tributary to the lower San Pedro River, contains an intact native fish assemblage, including the threatened spikedace and loach minnow. The presence of a robust population of these fishes in a tributary stream and the largely unregulated hydrology of both waters led to an approximately 13-mile reach of the lower San Pedro River being proposed for spikedace critical habitat. As a class, native fish represent the most endangered species in the Southwest.

The recognition of the San Pedro and its tributaries as a prime birding area, along with the watershed's great biodiversity and relatively intact ecosystems, has made the area a prime destination for eco-tourists. The economic benefits of this industry in Cochise County are well documented and growing.

A major expressway through this area would prove extremely disruptive to habitat, wildlife, and the ecology in general. It might well result in the extinction of several threatened species of birds, fish, mammals, and plants. There are not only environmental costs, but economic ones as well, both locally and throughout the regions that the San Pedro River Valley connects. For the trivial amount of traffic reduction the I-10 Bypass Expressway would produce, this is an exorbitant price to pay.

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*



# CASCABEL WORKING GROUP

6590 N Cascabel Road  
Benson, Arizona 85602  
[www.i10bypassinfo.us](http://www.i10bypassinfo.us)

## *Letter #9 — Archaeology in the San Pedro and Aravaipa Valleys*

We would like to tell you a little about the early history of the San Pedro River Valley and how it is being unearthed, literally, through archaeology. This history could easily be obliterated by the proposed I-10 Bypass Expressway.

You may know that the San Pedro River Valley has been inhabited for about 12,000 years, but you may not know that the Center for Desert Archaeology has identified more than 500 archaeological sites in the area between Benson and Winkelman. A lot of money has already been invested in studying and preserving some of these sites. If excavations were necessary to mitigate the damage that would be done by a freeway, it would be quite expensive. The Center for Desert Archaeology estimates that properly studying a single major site might easily cost \$2,500,000. Excavating even a small site can cost \$100,000.

Many of the sites have strong meaning for those Native Americans we now know as Hopi, Zuni, Western Apaches, and Tohono O'Odham among others. Those sites that have been carefully excavated have revealed not only architectural and cultural information but are also seen to be areas of human burial.

In more modern times, the San Pedro Valley has been occupied by western settlers since Father Kino's day and a number of significant events have taken place in this valley. An expressway would destroy not only a great deal the early human record but much of the later record as well. Since the history of the valley after 1800 is only fragmentary, this would be a huge loss.

URS and ADOT claim that they will avoid all sites of archaeological significance. Please note, however, that they can avoid only those sites that they know about. It is unquestionably true that many sites of major importance have not yet been discovered. It would be a blot on our stewardship of Arizona if we were to allow them to be wiped out by the blade of a bulldozer.

For more information on the archaeology of the San Pedro and Aravaipa Valleys, we invite you to contact the Center for Desert Archaeology at 520-882-6946.

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*

## *Letter #10 — A hard look at the population growth projections*

The original proposal for a Bypass by Si Schorr and the URS report makes a big deal out of the forecasted population growth in Arizona. To bolster their case, they use the projection by Maricopa Association of Governments (MAG) that Arizona will grow from the 5.5 million (estimated) in 2005 to more than 16 million in 2050. This is a three-fold increase in population. But,

- They do not seem to have considered that this rate of growth has been sustained for 40 years in only one case, that of California between 1940 and 1980. That was mainly the result of huge population shifts during and immediately after World War II.
- They do not seem to have considered that all of the water resources currently available to Arizona are currently fully (and in some cases over) subscribed.
- They do not seem to consider that there is currently a movement in this country to limit immigration, both legal and illegal, in a serious way.
- They do not seem to consider what effect on population that possible global warming might have.
- They do not seem to factor in the likely future shortage of energy, especially petroleum based energy.
- They do not seem to note the continued decline in the rate of population growth among the legal residents of the United States.
- They do not seem to feel that other estimates, forecasts, and projections all of which are lower than the MAG forecasts could possibly be correct.

And even should MAG be correct, we note that the primary growth forecast is in the Sun Corridor between Phoenix and Tucson. Isn't it much more likely that these people will want to travel to Tucson and/or Phoenix rather than Willcox or Buckeye? That's not, of course, where the proposed I-10 Bypass will go.

Not only is the probability very low that the MAG forecast is correct, their forecast does **not** support the Proposed I-10 Bypass Expressway. This is yet another instance of very sloppy planning by URS and ADOT.

Sincerely

The Cascabel Working Group

## *Letter #11 — Were CANAMEX and I-19 considered?*

One of the claimed major selling points for the proposed I-10 Bypass Expressway is that traffic on I-10 is growing rapidly. The Cascabel Working Group decided to take a good look back in September using the traffic data officially posted on the ADOT web site. We found that traffic at ADOT's permanent traffic measurement site near the New Mexico border (Cavot Road) was as follows:

| year               | 2000   | 2001   | 2002   | 2003   | 2004   | 2005   |
|--------------------|--------|--------|--------|--------|--------|--------|
| vehicles/day (VPD) | 17,000 | 17,300 | 12,500 | 16,600 | 13,200 | 12,800 |

Rather than increasing, it appears that I-10 traffic has actually been dropping for the last several years. In late November, after the URS report was made available, we were puzzled that there was no data for 2006, so we inquired of ADOT. We were informed that traffic data was normally posted in the spring of the following year, and sure enough, within a few days data for 2006 was posted. Interestingly enough, traffic at the New Mexico border dropped even further — to 12,000 vehicles per day!

This stimulated us to look at the traffic coming up from Mexico on I-19. Since not all of the traffic enters at the actual end of the expressway, we chose the traffic monitoring station just north of Exit 4 (Mariposa Road) as representative. The results:

| year | 2000   | 2001   | 2002   | 2003   | 2004   | 2005   | 2006   |
|------|--------|--------|--------|--------|--------|--------|--------|
| VPD  | 10,400 | 11,800 | 24,300 | 21,400 | 22,100 | 24,000 | 33,700 |

As you can see, traffic on I-19 is growing rapidly and is now almost three times the traffic on I-10. Surely this is due to NAFTA and the CANAMEX corridor.

Another puzzle was why the CANAMEX corridor was largely ignored in the URS report. This is the project to provide a full freight corridor from Mexico to Canada and results from a Federal law (Public Law 104-59, November 28, 1995). This law specifically calls for the corridor to

“proceed from Nogales to Tucson along I-19, then to Phoenix along I-10, then through Kingman to Las Vegas along US 93, then north through Nevada to the Canadian border along I-15.”

The URS preliminary report claims that SR85 is a designated component of this count. We found that the Maricopa Association of Governments officially recommended that the CANAMEX corridor:

“proceed west from Casa Grande along I-18, then north from Gila Bend along SR 85 to I-10 near Buckeye, then west on I-10 to Wickenburg Road, then north on Wickenburg Road and Vulture Mine Road to US93”

So far we have not found that this recommendation has been officially accepted. Nevertheless, it seems clear that if traffic reduction is of major importance then I-19 traffic is far more significant than I-10. This supports our conclusion that the real motivation for the proposed new expressway is to open vast tracts of rural Arizona to urban development.

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*

## *Letter #12 — Would the Bypass save energy?*

One of the claims is that the proposed new I-10 Bypass expressway, being shorter than the current route would attract both cars and trucks and would save energy. We showed earlier that the proposed expressway would not shorten the route enough to attract drivers. In this letter, we will show that it wouldn't save any energy either.

The current routes proposed by URS are around 250 miles in length. The shortest proposed route would save at most 25 miles. The other routes would save somewhat less and the Avra Valley route should ADOT try to resurrect it would actually be longer.

For calculation purposes, consider the mileage saving as 25 miles.

Studies have determined that the energy requirement for highway construction can be estimated from the construction cost. For each \$1B of construction cost,  $10^{13}$  (10 trillion) BTUs are expended. The majority of this energy is expended in the preparation of the materials used in the construction: concrete, asphalt, steel, etc. Most of the rest is consumed in moving dirt from one place to another.

Don't let the mathematics of the following distract you. Just look at the final result.

Conversion of this energy to gasoline is done with the following equivalences:

$$131,850,000 \text{ joules} = 125,000 \text{ BTUs} = 3.785 \text{ liters of gasoline} = 1 \text{ gallon of gasoline}$$

Since we estimate the bypass will cost \$8B or more:

$$\$8.0\text{B} = 8.0 \times 10^{13} \text{ BTUs} = 640,000,000 \text{ gallons of gasoline}$$

Say an average of 10,000 vehicles per day take the bypass, of which 5,000 are heavy trucks and 5,000 are passenger cars. If passenger cars average 25 mpg and trucks average 5 mpg, and the distance saved is 25 miles on each trip, each car saves 1 gallon of gas and each truck saves 5 gallons. The total savings is therefore  $5,000 + 25,000 = 30,000$  gallons per day.

To save 640,000,000 gallons would then take 21,300 days or nearly 60 years, or more than twice as long as the pavement could possibly last. Since we have not considered the energy needed to maintain the expressway over this 60 year time period, it is easy to conclude that no savings in energy is possible.

In a time of energy shortage and with global warming staring us in the face, this is another strong reason for rejecting the I-10 Bypass proposal.

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*

## *Letter #13 — Where will the money to pay for the new expressway come from?*

In this letter, we turn to the question of how to pay for the Proposed I-10 Bypass Expressway. Earlier we reported that URS estimated the cost at \$6-8 billion (that is billion with a “b”) and that our estimate was somewhat higher. For the moment we will take the \$8 billion estimate as correct. Now this is for the current year of the report (2007) and does not account for the steep inflation currently being observed in construction and construction materials.

But to proceed. Arizona Department of Transportation currently spends about \$700 million per year on new construction. The rest of their budget of almost \$1.2 billion goes for maintenance, administration, planning, and a variety of other things. As a side note, decoding the ADOT budget is somewhat like trying to read Sanskrit.

If ADOT devoted its entire construction budget to the proposed I-10 Bypass project, it would require nearly 12 years to pay for it. The possibility of this is obviously nil. Even the URS report admits that this is unrealistic. They suggest some alternatives. The first is the raising the tax on gasoline.

URS calculates that if Arizona were to raise their gasoline tax by ten cents per gallon and the Federal government did likewise, that this would bring in \$714 million per year. This would allow paying for the Bypass in just over 11 years. We will leave it to you to judge the political feasibility of this tax increase.

But wait! URS has not factored in the drop in gasoline sales due to a tax increase nor have they computed the effect of the recently passed mandate for a major increase in gas mileage for the auto industry.

URS also floated the trial balloon of a toll road. The modern jargon is PPP — Public Private Partnerships. This has actually been successful in a few places, but only, as far as we can tell, for very heavily trafficked routes and never for lightly used rural expressways. The briefest consideration of the economics of the Proposed I-10 Bypass shows that it is just not feasible here.

The interest cost alone on \$8 billion is \$360 million per year (at the current 10 year T-bill rate of 4.5%). If 10,000 vehicles per day were to use the road, this would amount to 3.6 million trips per year. A quick calculation shows that the toll would have to be \$100 per trip just to pay the interest on the construction cost, much less amortize the principal, provide for maintenance, toll collection, or patrolling. At that price, it is doubtful that anyone would use it. For the record, URS admits this in their report.

In short, the price tag of \$1,500 for every man, woman, and child in Arizona is simply too steep. The money is just not available.

Sincerely

The Cascabel Working Group

## *Letter #14 — The crux of the matter: land development*

Let's stop beating around the bush. The I-10 Bypass proposal is not really about relieving traffic in Tucson and Phoenix. Nor is it about providing a nice expressway for people travelling between California and New Mexico. It is not even about providing for the growth in population in the area between Phoenix and Tucson.

### **It is about land development.**

In spite of their best efforts, URS let slip the message in their report to ADOT. They say in their Executive Summary (p13):

“Routes 1, 2, and 3 pass through areas that are surrounded by mountain ranges that are in the Coronado National Forest. The valleys are generally undeveloped and are mostly State Trust Lands. As a result, a vast sparsely populated area is created that provides habitat for many large mammals, numerous bird and fish species (some federally protected species), and some unique native grasslands. Some stakeholders wish to retain this area as a large undeveloped ‘preserve’ and have the opinion that all growth should take place in the existing major urban areas.”

URS is clearly attempting to minimize the impact that a major expressway would have, and is hinting that all opposed to this project are in the “no growth” camp. This is simply not true. Many of those opposed just don't want an expressway that will not accomplish the stated goals, but rather amount to a giant boondoggle. URS continues:

“On the other hand, much of the developable land is State Trust Land which is to provide the maximum financial return to benefit the public education system. Should, or can, all of this land be protected and left undeveloped? There may be long-term benefits to Arizona of providing economic stimulus to existing small communities near the corridors and even development of new small communities. The new communities could give people an opportunity to live near major preserved areas such as the national forests.”

It appears to us that the Bypass Proposal is really an attempt to open State Trust Lands to development, and make possible the development of large portions of rural Arizona currently too far in time from the major population centers. Indeed, some people may wish to soft-pedal the expressway as merely a long-term possibility while making “preservation of a corridor,” as the URS report urges, critical now. Developers know that speculation will drive up nearby land values so that pressure to auction Trust Lands becomes irresistible.

It is time to drive a stake in the heart of this Bypass Proposal which would surely and irreversibly ruin one of the Last Great Places, not only in Arizona, but the Nation and perhaps the world. We would like to express our appreciation to you for taking the time to read our messages. We now ask for your support in getting our message out to others. Thank you.

Sincerely

The Cascabel Working Group

*The Cascabel Working Group is comprised of residents and landowners in the San Pedro River Valley coming together to help educate the public about issues affecting this part of Arizona*