Social and Economic Aspects of Planning
Effects of Alternatives
Regional Impact Analysis (cont)

CLASS PARTICIPANT: ...labor income in county or --

PRESENTER: It's not for the county. It's for those two counties.

CLASS PARTICIPANT: So it's not outsiders coming in --

PRESENTER: No, this is income -- well, that's an issue. Yes.

CLASS PARTICIPANT: Most of that is not coming into the local community --

PRESENTER: In this particular case it's income to those two counties, but what if you've got a situation, and this is really the real-world situation, where they live in Oklahoma and they are flown in for a 20-day work period and then flown out for 10 days and come back, and so you have leakages that are going on. And you have to compensate. In fact, that's part of the -- that's part of the challenge of doing input-output analysis, is that when you have situations like that, you need to calibrate your model and adjust to account

for that situation -- for that very situation.

Yeah?

CLASS PARTICIPANT: If you look at the full transaction table, IMPLAN does account for that. It shows up as an import of labor, and on the flip side, if you're a

community that has a lot of outcommuters, like if you're a bedroom community for some where, that shows up as an export labor and essentially that's going to be new money to the economy, those wages they earn out -- let's say it's two counties away but they live in your county, they're -- basically you're exporting their labor but in turn they're bringing their wages into your county.

PRESENTER: But --

CLASS PARTICIPANT: IMPLAN does account for that.

PRESENTER: It does account for it, but in terms of what we've done in southwestern Wyoming, there's a further accounting than you would get than by just running a canned model like I have here.

CLASS PARTICIPANT: [inaudible]

PRESENTER: Yes, in terms of the proportion. Yeah.
Yeah?

CLASS PARTICIPANT: I'm looking at this table and it makes it look like sort of a pretty even trade-off between oil and gas and recreation, but the thing that this doesn't bring out is that increasing oil and gas by a million dollars happens a lot faster than increasing recreation output by a million dollars. Those two things don't equate. You won't just trade one for another straight across. So how do

you get that?

PRESENTER: Well, the way you would get at it is if you're looking at Pinedale, as an example -- you've been to Pinedale, haven't you?

CLASS PARTICIPANT: A couple times.

PRESENTER: Yeah, what you would do there is the magnitude, instead of one million, might be an -- I

don't know. Right. And so, yeah -- if you're looking at recreation -- if you're looking at them all together, you would have this huge increase in oil and gas activity, and at the same time, I hate to keep going back to Pinedale, but you would have this huge increase in oil and gas spending, and it's different in Pinedale because we're developing a field. So instead of just showing an existing field like I did here increase its output by a million dollars and see what happens, we would have all of these expenditures that occur in that transactions matrix -- remember we showed the little transactions matrix? We would have spending patterns for these -- for the oil and gas industry within that big matrix, and then we run it through the model, and basically what happens in this analysis -- can anybody tell me what happens when you are -- when you're looking at a scenario where you have major oil and gas development and you're looking at the impacts along with oil and gas development of recreation and grazing and all of the other traditional resources? For example, you may show

an increase in oil and gas activity in terms of development and a reduction in recreation and maybe a reduction in grazing and -- I

don't know what else is going on. But you would have these offsetting factors, but what's really going to happen in terms of what you get out of an input-output analysis?

CLASS PARTICIPANT: [inaudible]

PRESENTER: It swamps everything else, right, in the case of a major oil and gas development like you've got in Pinedale. And so this little -- you're right, this little example here doesn't capture that, but we do when we run it.
Yeah, Josh?

CLASS PARTICIPANT: Well, this is really interesting, too. Just look at the output multipliers. I mean, the million dollars spent in oil and gas is re spent in the economy more than in recreation. But what this doesn't account for is the consumer surplus. The consumer surplus gained by the recreation opportunities may be much higher than that of oil and gas, and that's something I-O doesn't get at, which is important to understand.

PRESENTER: And that's what we're going to be talking about later. Does everybody understand what Josh just said? Because that's an important point. I don't want to go into a lot of detail on the -- on the intricacies of the input-output

model but what Josh said is really important, is that what you have here is you're showing the impact associated with a particular alternative, but you haven't captured everything. For example, you haven't captured all of the nonmarket stuff, and so if -- what -- at least what I've found is the companies in an area where you have rapid oil and gas development, doesn't have to be Pinedale, it could be Rifle or it could be the Roan Plateau, or it could be down in New Mexico, or it can be out in Craig in the Vermilion. It doesn't matter. The oil and gas companies like this way of analyzing the impacts.

CLASS PARTICIPANT: When we're talking about spending and these two different sectors, when you originally put that million dollars in, that model might be based off of old Pinedale economy, probably mainly a recreation economy, and when the oil and gas industry came n the production --

PRESENTER: The coefficients changed --

CLASS PARTICIPANT: Exactly. And if you don't do that ad hoc, you're going to have some problems. Where recreation might be -- is more of an export industry where they're exporting goods, getting new money in the economy, where oil and gas industrial comes in you might be more of an import to the economy, but if you don't change those production functions, the multipliers are going to be bigger than they really are.

CLASS PARTICIPANT: We did that, right, Mark?

PRESENTER: Yeah, we did. Actually, we did.

CLASS PARTICIPANT: Okay. Good.

CLASS PARTICIPANT: Can you put the nonmarket values into an input-output --

PRESENTER: Well, we're going to have an entire section that talks about -- this is just the introduction for

the IMPLAN section or the input-output. John is going to give us an entire section on nonmarket benefits and travel costs and consumer surplus and go into that in a great deal of detail. But the point here is that when

you look -- this is true of our analysis in Pinedale. When you take a look it a, we let off at this point. We're not going that extra step. The problem is, to go that extra step becomes very controversial. I think I gave you an example earlier, right, where working in Lander, Wyoming, we were looking at -- we were looking at potential grazing reductions, and the ranchers -- do you remember that discussion when I said the ranchers were saying they didn't want to see their income go down and they knew that our actions was going to have a negative impact on their cash flow or on their income? And they said, if you guys are willing to make a decision that reduces our income and you're making it based on

open space considerations, protecting the historical trails, protecting the riparian upland -- the upland riparian habitat, if you're going to do all of that, how can you possibly make those decisions if you don't balance our loss in income, which you can

easily measure, against what benefits you think you might get from, what? From open space. Improving riparian habitat. Improving wildlife habitat. Or improving riparian areas, I should say. And improving wildlife habitat. How can you make those decisions?

And so we actually started down that road to determine and quantify those nonmarket benefits. And once we did, the study was shut down.

So John will be talking about that, but when you get into that level, when you start pulling in these nonmarket benefits -- I know in the Vermilion -- John, maybe you can talk about that when you take the podium here. John was going to be looking at nonmarket benefits in the Vermilion, which is north of Craig, and it was very controversial.

So this is -- typically this is about as far as you'll see the analysis go, and what it does is it -- you can run the analysis by alternative, and you can assess what the anticipated employment is going to be. You can anticipate or you can quantify is a better word,

what the anticipated employment is going to be, what the earnings are going to be, and you can from the employment that's generated, you can estimate population numbers. Right? And then you can distribute those based on where you think those folks are going to live. So you can take this analysis –

you can get a lot of information out of this analysis, but it doesn't present the full picture of what's going on, and I -- I think that's something that when you go home and you start doing these for your own planning efforts, and if you're looking at using IMPLAN or using regional input-output models, just keep in mind that you're not getting the full picture. You're getting a partial picture of what's going on.

Just some suggestions... if you want more than one IMPLAN run to reflect a range of inputs, you want to factor that into your statement of work. As I mentioned earlier, when you're using implant, it doesn't assess impacts to communities, so you'll have a steady region and it will give you the impacts for that region. It doesn't allocate those impacts. You'll

need to account for the leakage. John's mentioned leakage. We just talked about leakage a little bit here.

This is the point that John was bringing out... higher wages from mining may just reflect high risk of injury and death. In other words, you may get higher wages.

The reason you are is because it's an incredibly dangerous occupation and it's not all that fun to be in the Red Desert in the middle of Wyoming with 80 or 90-mile-an-hour winds working 15 hours a day. So that might account for the differences in wages. You just have to pay people more to get them to do the work.

There's always a question, and I think I have it here -- what does it cost to do this? Now, my costs might be a little bit old, but as I mentioned, it's about -- around $1500 or slightly less per county just to get the county data for IMPLAN, but that doesn't include the work you would need to have somebody do to calibrate it and get it ready for your area. And not many people are going to do a primary data model.

They're just so expensive. In your book I estimate $150,000 to $250,000 for a big study. And right now when we're looking at three to four county models that are fully calibrated, it's around $40,000 to do that work.

But, I can tell you one thing, at least working with the University of Wyoming, is that we'll do three or

four counties and we'll get -- we'll be able to take advantage of that work more than once. So once the model has been calibrated, then when you're going back for other planning efforts or other NEPA efforts it doesn't cost near that much. For example, I'm working in Lander on a grazing EA, and to do the IMPLAN work

up there for that is about $5,000.

Oh, who provides the input data? Who do you think provides that input data?

CLASS PARTICIPANT: The Resource Specialist.

PRESENTER: The Resource Specialists provide it. And

that's not always that easy to get. You'll find that out. And I know -- I just mentioned I was working in Lander, and we're looking at a grazing -- it's a 550,000-acre grazing allotment. It's a common allotment. What we were trying to figure out is what the economic impact would be for the various grazing alternatives we're looking at, and the first thing we did is we did a benefit-cost analysis. We've just about finished that up, and the spreadsheet to do that

is about 10 megs. So it's a big spreadsheet. And we have all of the costs of the range improvements by year for each improvement, whether it's a cattle guard, it's a reservoir, it's a spraying, or whatever it is, and we have the cost categories, and so we have all of the cost associated with the range improvement by year, by alternative, but we also have the AUM's both for sheep and cattle by year, by alternative, and as it turns out, we have the visitor days for all of the recreation by year, by alternative. And it's a labor intensive project. I was up there for two-and-a-half or three weeks just sitting with the Resource Specialists -- first it was dragging that information out of them, but

as you work with them for a while, they start out with very -- with a qualitative idea of what's really occurring and you go that from to a very quantitative analysis. And once you get to that level, that's the benefit-cost, and John is going to be talking about that, you can use a lot of that information, then, as input into the input-output model, or into the IMPLAN. In fact, that's -- I just FTPed the file to the University of Wyoming and they're using that model as input for the IMPLAN runs.

Do other agencies use IMPLAN? Yeah, IMPLAN is commonly used. When do you use IMPLAN? That's an interesting question. What we did -- how long ago the Snake -- that's been a long time ago. I hate to even think. Five years ago? Okay. Let me give you a situation. We have down the Snake scattered BLM tracts located -- what was it, a couple thousand acres? Is that what it was?

CLASS PARTICIPANT: 981.

PRESENTER: 981. We had -- is that right? I thought it was -- okay.

CLASS PARTICIPANT: 981 acres.

PRESENTER: We had 981 acres. I thought it was 981 and a half. Okay. 22 parcel, 981 acres, and they were scattered all along the Snake River. Keep in mind we talked about the 10,000-square-foot house. We were looking at one of

the parcels and we drove down Cheney Drive, right, John? It's beautiful. In fact, John and I took a float trip down and we saw eagles and the

backdrop was the Tetons. Beautiful float trip. The tracts were scattered all along the Snake and some of the original concerns -- at least that I heard -- is that we need to convert this to private. You had folks that lived along the snake. They'd set their house back. They were next to a BLM parcel. They had a hot tub sitting back there. And they didn't want John Q. Public pulling in and sucking on a bezo (phonetic) and roasting a hotdog when they're back there in this corner of their yard next to a piece of public, public land. So there was some degree of pressure to convert all of these tracts to private. But there isn't any

other -- all of that land along the Snake is private with the exception of these -- of this 981 acres. And one of the arguments was that it was too far from Pinedale -- I'm searching back through my memory here -- but it was too far from Pinedale to manage. That was one argument. I mean, we go 80 miles all the time when we're out in the field, but this was too far from Pinedale to manage. And we were looking at it, and there was a question, should we run an IMPLAN model to see how much income in earnings would be generated by floating the plat as a result of these tracts, and

do you think that would be an appropriate way of analyzing -- would IMPLAN be a good way of analyzing that situation? What do you think? Would that capture the value of these tracts? I see -- that's right. It wouldn't. Absolutely wouldn't.

Another way to do that is, to get some idea of how important these tracts are, is you could actually look at comp sales, right? There are plenty of comp sales. Would that capture the value of these tracts? I mean, this is some of the most valuable surface land in the

entire Bureau, and I'm talking about market value. Would that capture the value of these tracts? Do you think would it? No. Even though it's some of the most valuable on a per-acre basis, valuable land in the Bureau, it didn't.

And so ultimately what we ended up doing is a major survey. We surveyed the locals, both the users and nonusers, in Teton County and in Cheyenne, I think --

CLASS PARTICIPANT: Rest of Wyoming --

PRESENTER: Or rest of Wyoming and then you did one down in Denver, didn't you -- oh, no, those were focus groups. Yeah, it was the Teton County, the rest of Wyoming and then rest of U.S.

What ultimately came out of this entire study is it's still in public hands, right? So it was -- at least in my mind I thought it was a useful way to look at this.
Yeah?

CLASS PARTICIPANT: [inaudible] questions relative to the value of the land itself?

PRESENTER: What the Pinedale Field Office did is they gave us some very specific information on each alternative and then John developed a survey around what the Pinedale office gave us, went through focus groups in Jackson, Cheyenne and Denver to further refine the survey, and then it was September out. And the idea -- John can talk about that survey.

PRESENTER: We'll talk about the method we used when we get to my section here in a little bit.

PRESENTER: I'm kind of getting off task here. But, anyway, so don't -- I think the important point to take away is you don't just pick something out and say we're going to use IMPLAN or we're going to use -- or we're going to look at nonmarket values. Would you look at nonmarket -- I'm getting off task again. There's an appropriate time and place for nonmarket values, and to take the time and effort to actually try and quantify

nonmarket values. You don't want to try and quantify nonmarket values if you don't think there's any value there.

CLASS PARTICIPANT: [inaudible] when it's just a big oil and gas issue --

PRESENTER: I think it gives you -- yeah, I think you can use IMPLAN if you're looking at a major oil and gas field development.

CLASS PARTICIPANT: [inaudible] try to figure out what the effects on the local economy are?

PRESENTER: When you've got major recreation development potential, things like that, visitor centers, campgrounds, opening or closing areas, travel management stuff, right, where you've got -- look at the case of opening and closing areas to OHV's, snowmobiles, those sorts of things, oftentimes people are going to be arguing economic issues. And if they're couching those economic issues in turns of

income and employment, that's your tool.

PRESENTER: Look on page 7. Remember that demand curve that John presented? What does he say in this says flow to the local economy. And this is where, you know, you can use IMPLAN assessing that. If it's these other things, if you're looking at the nonmarket stuff, you have to use a different tool. It doesn't cover it.

CLASS PARTICIPANT: [inaudible] managers balk when they find out how much it's going to cost to do an IMPLAN --

PRESENTER: IMPLAN is not an issue. We use it routinely on practically everything.

PRESENTER: What I do in Montana is I buy the data every year, and the cost of the data is $1750 per year for Montana. We have a site license, and I think that's $500. That's the total cost. And I might use IMPLAN -- like I say, it covers all the counties in Montana. I might use that a dozen times in the course of a year. You can buy county IMPLAN data for

considerably less than that, but after you do about four or five counties you might as well buy the entire state. So it isn't -- it isn't real expensive, you

know. It does take some time to run it and -- the important thing is you have somebody knowledgeable that's doing it so they know what they're doing.

PRESENTER: It's -- Stacy, it's usually not an issue running IMPLAN because it's not very controversial. John will get into nonmarket -- the quantification of nonmarket values. I think it's fair to say is a little more controversial. That play as role in whether you can do it or not.

Also, there's a time factor involved. Also there's a

level of effort involved for the Field Offices, Al though in the case of the Lander effort that I'm working on right now, they're to the point where they fully quantified all of the impacts associated with each alternative by activity. So I would just say -- I would just say that nonmarket valuation is going to be

more controversial. Yeah?

CLASS PARTICIPANT: I just wanted to make a comment in response to your last slide where it says IMPLAN does not assess the impact to community. I don't think

that's entirely accurate. The Forest Service is working on a tech guide right now to discuss how you can use I-O analysis to estimate impacts to local communities. IMPLAN data is available at the zip code level, but the primary data needed to conduct the analysis is much more intensive because of the disclosure issues than the secondary data reported by the census and [inaudible] but you can get that data by zip code, although generally a community is at least a zip code, and if you spend time in a community [inaudible] you could incorporate with it, you can do

community-level analysis with it.

PRESENTER: The problem is in a rural economy the smaller that study area becomes the more suspect the results.

CLASS PARTICIPANT: But the reason for that is that a community you may want to estimate the impacts for, it might lie within a larger county and the county level analysis might not -- might not directly estimate the impacts to that community. The impacts to that community might be diluted by a larger economy for another city that's in the same county.

PRESENTER: Right.

CLASS PARTICIPANT: And that's -- the Forest Service has seen more of a demand for that type of analysis because some of these smaller communities are starting to speak up.

PRESENTER: Right.

CLASS PARTICIPANT: But it's not entirely impossible to

do community level analysis with this.

PRESENTER: Right. Yeah? Oh, five minutes. I need to wrap it up, folks.

The regional analysis. Ranking mechanism. You can use this for a mechanism

for ranking alternatives based on local economic impacts, and I gave you a little example of what the output might look like.

Cautionary note on cumulative regional economic effects... one thing -- when you're running -- let's say you're running an IMPLAN model, and again I'll use

Pinedale as an example, let's say you're running a model on Sublette and Sweetwater County, but you have all of this other activity that's occurring around Sublette and Sweetwater County that's also driving the economy of southwestern Wyoming, and you need -- you really need to take a look at the cumulative impacts, not just the impacts associated with the individual project. So keep in that mind as well, is pay attention to those cumulative impacts.