

**Measuring the Interim Performance of the Regional Educational
Laboratory in the Educational Research Development and Dissemination
Infrastructure**

**What Are The Benchmarks And Indicators Of Success?
A Concept Paper**

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Purpose

This paper is intended to provide a framework for developing evaluation criteria and indicators which can be used in the mandated evaluation of the Regional Educational Laboratories. The purpose of the paper is to assist the evaluation contractor to develop measures for peer reviewers to use in their assessment of each Laboratory's performance.

The paper is responding to a specific charge which is stated as follows:

The contractor shall write a concept paper on the content and measurement of the Laboratory's contributions to the educational research, development, and dissemination infrastructure, focusing on the Laboratory Networking Program, the Nationwide System of Educational Information and Assistance, Specialty Area Development and Collaboration with OERI's Research Institutes and Centers.

Specific issues to be addressed in this paper include:

- 1) *What does a peer reviewer look for in the Laboratory's contribution to the educational research, development and dissemination infrastructure?*
- 2) *What evidence supports professional excellence? How do you measure performance? How do you measure the quality, utility, outcomes and impact, and implementation and management of the Laboratory's contributions to the educational research, development, and dissemination research infrastructure?*

A Conceptual Framework for Thinking About the Regional Laboratories as "Infrastructure"

This paper takes quite seriously the proposition that the Regional Education Laboratories should be conceptualized as, and evaluated as, investments in infrastructure. Adopting this perspective has real consequences for the approach, and the nature of the questions that peer reviewers will use. Seeing the labs as investments in infrastructure moves the evaluation effort more toward a study of value, benefits, and leverage, and away from a more traditional approach that seeks to measure the "impact" of the Labs. Accordingly, the paper goes to some length to make clear the ways in which thinking about the Labs as infrastructure shapes their evaluation.

The root meaning of the word "infrastructure" is the "structure which lies below."

Infrastructure refers to that part of the overall structure which lies below the surface and which provides a foundation for the "superstructure."

Infrastructure is like the ninety percent of an iceberg that is under the surface of the water.

While largely invisible, it is critical in providing support for the ten percent that is visible

above the surface. (Sometimes it seems as a society that we want the top ten percent of the "educational iceberg" without having to invest in the ninety percent that supports it!) As its name implies, infrastructure is the sub-structure that is essential to other activity: highway infrastructure facilitates transportation across the nation; electrical infrastructure supports much of daily living activities as well as all of industry; irrigation infrastructure greatly enhances what is possible in agriculture.

Infrastructure such as highways or airports are assets that provide common and shared benefits to many. Infrastructure is, therefore, often held in the public domain, or at least is heavily subsidized by public funds. Not surprisingly, it is the federal, state and local governments that make the most substantial investments in infrastructure. Investments in infrastructure seek to augment or strengthen the capacity of the overall system – and by doing so yield a wide range of public benefits. Investments made in infrastructure are sometimes aimed at creating whole new infrastructures (e.g., the World Wide Web); sometimes at extending the reach of existing infrastructure (e.g., building new highways); and sometimes at simply improving or upgrading existing infrastructure (e.g., the modernization of air traffic controls). Investments in infrastructure are made because the results of such investments have “returns.” These returns come in the form of improved infrastructure, which in turn creates conditions and develops capacities that augment what is possible for people and institutions to achieve in their daily lives.

A key idea in this paper is that it is both interesting and worthwhile to look at the Regional Labs as a specific type of infrastructure. Physical infrastructure makes possible and contributes to such activities as transportation, industry and agriculture. The Regional

Labs are a type of intellectual infrastructure – or what some in industry have come to call the “improvement infrastructure.”

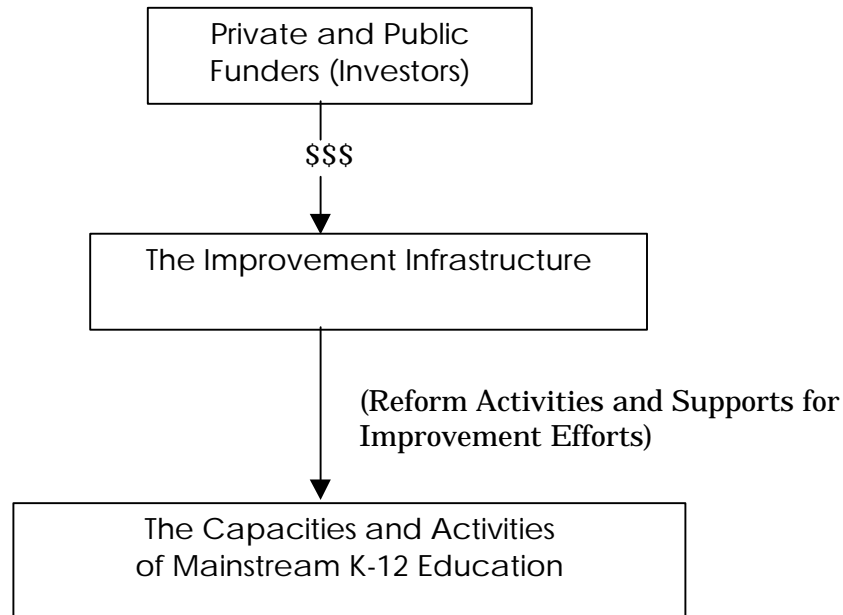


Figure 1. Making Investments in the Educational Improvement Infrastructure

The Department of Education is one of many federal agencies (along with many other private Foundations) who are investing in the improvement of education. It is important to note that the Department of Education does not generally do the actual work of helping schools develop new curricula, conduct professional development programs, or design and implement assessments. Rather the Department of Education designs specific programs and reform initiatives which provide funding for the work of others. In response to the funding offered by the Department of Education and other funders, there has grown over the last several decades a whole “industry” of educational change agents – people and institutions engaged in a wide range of activities that are aimed at the ultimate improvement of the functioning of the nation’s schools. This infrastructure includes those working at universities, private educational labs, evaluation and research units, as well as

those working at the Regional Labs. The knowledge, expertise, experience and resources that these people and institutions bring to bear on the nation’s school system are considerable, and they comprise the nation’s educational “improvement infrastructure.”

Each Regional Educational Lab can be seen as fitting into the system in the following way:

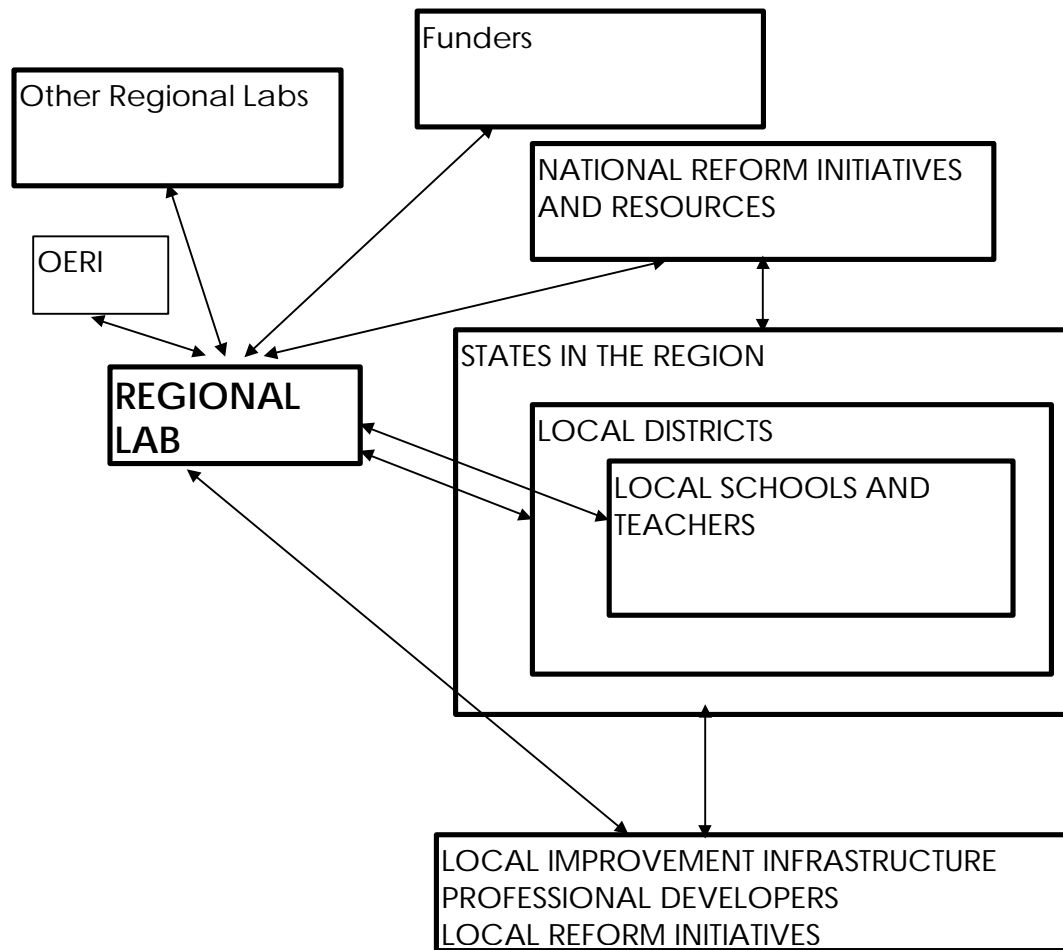


Figure 2. The Relative Position and Interconnections of the Regional Labs

In essence, each Regional Lab is (ideally) strongly connected with its local states, districts and teachers. The Lab is also connected with national resources including major reform initiatives (e.g., NSF’s Systemic Initiatives, Annenberg Challenge; Goals 2000, etc.). The Lab is also connected with other Regional Labs as well as the research community including OERI. The “web” of connections is complex. And yet it is the very complexity of

the web, and its multiple connections, that lies at the very heart of the function that each Regional Lab plays as part of the research, development and dissemination infrastructure.

The characteristics and functions of infrastructure

There are at least three important aspects of infrastructure that are worth exploring in more detail.

- Infrastructure is more important in the capacity it provides than in the immediate and direct benefits it produces.

Just as the economic health of a nation depends on the strength of its infrastructure, so too do the schools of the nation depend on an educational infrastructure. And the effort to reform or improve education depends upon a somewhat separate educational improvement infrastructure. It is very important to note that the educational improvement infrastructure is not only, or even primarily, made up of physical resources. Rather than being composed of bridges, highways, and water systems, the educational improvement infrastructure can be thought of as an interwoven network of educational, social, intellectual, and cultural resources.

Infrastructure is indirect in its productivity. Roads and railroad tracks create a substructure for many kinds of transportation and thereby indirectly contribute to a wide range of social and economic benefits. Similarly electrical and water systems are more important as resources that empower a wide range of other human activities than they are

productive in themselves. Bridges in themselves do not create economic gains¹ but they permit connections and journeys that are, in fact, beneficial to many members of the community. Again, to return to the iceberg metaphor, investments in Regional Labs are more like investments in the bottom ninety percent of the education iceberg, rather than in the top ten percent.

Too often we tend to see all of our investments in education as providing programs that directly and immediately have a uniform and predictable impact on the "learning" of students. One person compared this mentality to seeing educational initiatives as "purchase orders" for specific amounts and types of learning. This might be a reasonable expectation if a strong learning infrastructure already existed, if the system was already rich in capacity. But such is not the case, and increasingly it is less so. More and more our public educational investments will have to go toward creating infrastructure resources that can help provide the conditions in which improvement is possible.

Perhaps it would be useful to look at other resources that are a part of the cultural infrastructure. Libraries are a good example. Both libraries and Regional Labs are community-based resources. Both provide a range of educational resources and programs for people who have a wide range of interests and motives for their visit. And yet we tend to view libraries and Regional Labs quite differently. We see libraries as achieving value and validity simply by existing – and by providing resources that are easily accessible to the public. Libraries are a part of the nation's educational and intellectual infrastructure which underlie many other kinds of activities. And, in terms of our previous discussion,

¹ That infrastructure resources have no direct economic benefits is not quite true. Many dams, roads, and military bases have probably been built due to the local economic benefits that

libraries are places that invite people to develop an ongoing relationship with books, reading, and knowledge.

Also, libraries are resources in that they are designed to be used by different people in very different ways. There is no expectation that there is a common "library experience" or one "library program." Rather, the benefit of a resource that is part of the infrastructure is that its use is very individualized, and its overall utility depends on the ease with which it can be used in different ways by different people for different purposes.

Perhaps we should think of Regional Labs as being more like libraries than short-term programs. Like libraries, Regional Labs are a multi-faceted community resource with unique roles and capabilities. They are semi-permanent resources, which, if well-designed, can be used in multiple ways that empower other educational improvement activities. In evaluating investments in infrastructure resources, we must be careful, then, not to look at them as purchase orders (looking only for direct and immediate impacts). One would not think of pre- and post-testing people during their visits to a library to see what they had "learned."

Perhaps one more analogy might be useful here. The nations of Somalia and Ethiopia are examples of countries that present the world with vivid and horrible examples of societies that have lost virtually all of their infrastructure. In the future there will be investments in new infrastructure – electrical systems, irrigation systems, and agricultural education. And yet it is clear that no one investment will by itself alleviate the problem of starvation. Only infrastructure resources that work in concert will be able to make a difference, and only in the long-term. The goal of such investments is to build the capacity for others to

accrue as a result of their construction.

carry out activities that will more directly impact the food production of the country.

Clearly, the evaluation of such investments must look closely at the ways in which the resources work (or don't work) together and look at whether or not they are creating capacities that "leverage" and "amplify" other activities more directly involved in overcoming famine. Certainly, it would be inappropriate to examine separately the "impact" of each investment on the overall infant mortality rate.

- Infrastructure is meant to serve as a bridge between critical disjunctures in the system.

Infrastructure investments sometimes create resources that are highly leveraged in that they enable activity that otherwise would be impossible. Bridges, for example, quite literally overcome disjunctures that would otherwise greatly limit interactions between communities. Phone services and the internet clearly are about making connections where none existed before. Similarly, the development of a new airport or the extension of a rail system will catalyze a much higher level of economic activity in a whole region. Good investments in infrastructure identify and then fill in gaps where the lack of connection is critical in limiting the functioning of the society.

- Another aspect of infrastructure is that its various components must act together to produce a system that has overall capacity to support the productive activities of the whole society.

Often infrastructure components only become useful as they interact with each other.

Different elements of the infrastructure are typically co-dependent for their effectiveness.

Water systems very often depend on the availability of electricity, and vice versa. Bridges

and roads are similarly mutually dependent on each other. Airports depend heavily on communication and electrical systems. Infrastructure components interact in a mutually-reinforcing way, providing a total foundation that supports social and economic activities through an interwoven fabric of many different kinds of resources.

The quality and effectiveness of the nation's overall educational system depends heavily upon the depth and productive redundancy of its infrastructure. This infrastructure consists of a wide range of institutions providing resources and services that can work together in a synergistic fashion. A system is greatly strengthened if there is overlap and redundancy built into its infrastructure. In short, successful infrastructure consists of strong independent components which are highly interactive and mutually supportive of each other.²

In fact, the notion of productive redundancy is an important design feature in many complex systems (e.g., space shuttles, airplanes, electrical systems) where a failure could be catastrophic. Ironically, in education the notion of redundancy is one that is typically seen as wasteful – we apparently worry more about excess expense than about the consequences of system failures due to the lack of any overlap or redundancy. It is abundantly clear from the multitude of educational studies around the country that our educational systems have a diminishing, and not growing, capacity to meet increasing demands. The schools are a necessary but hardly sufficient piece of the infrastructure that is required to support high quality education in this society.

² In his book *Unsafe Skies*, Jim Nance argues that the air traffic control system today is still "safe," but the safety factor is greatly reduced because the system is thinner, with less redundancy and fewer back-ups. In addition, overall, each component is of lower quality than ten years ago.

Using the Idea of Infrastructure as a Framework for Evaluation

To evaluate investments in infrastructure requires a clear understanding of what infrastructure does and does not do. Specifically, it is very important to restate that:

- *Infrastructure resources lie beneath the surface and become an irresolvable and assumed part of everyday life.*

Consequently, the evaluation of investments in infrastructure are difficult because the contributions are myriad, diverse, and not easily distinguished or measured. Ironically, the value of infrastructure is most apparent when it is absent – when infrastructure systems fail. The value of electrical systems become most apparent in a black-out; water systems in a drought; bridges in an earthquake; or telephones in a hurricane. Consequently, one way of understanding the value of infrastructure is to try to assess the many consequences of its absence.

The implications for the evaluation of the Regional Educational Labs is this: A key question to ask is what difference their absence would make – both in the short term and in the long term. Of course, it is not easy to empirically answer this question, short of eliminating the Labs and trying to assess the impact of their absence. But it is nonetheless a good idea to try to frame questions and assessments that not only assess their contributions, but that also independently seek to understand the consequences of their non-presence.

- *Infrastructure consists of resources that are used by others to enable the work they do. Thus, it is at least as important to understand how the funded resources are used by a wide range of people as it is to understand “the impact” of the infrastructure.*

It is both impossible and undesirable to try and sort out the exact cause and effect relationships that involve infrastructure (e.g., what is the "impact" of subways?). Similarly, we do not think of evaluating “the impact or outcomes” of library. Rather, we need to evaluate the degree to which our investments have helped to create infrastructure resources that are valuable and useful to a wide range of users in a wide range of ways.

Accordingly, it is important to think of the evaluation of the Regional Labs not only or even primarily in terms of assessing the “impact” of the Labs – in the sense of assessing them as one might try to assess a “treatment” in medicine or even a particular instructional strategy as one might do in educational research. Clearly, evaluating the labs does not lie within the domain of experimental research, where pre- and post-tests and control groups are the norm. Rather, it is better to think of the assessment of the Labs as being closer to assessing the value of a library, a new airport, or a new bridge.

- *Infrastructure resources must connect well with and work synergistically with many other components of the infrastructure.*

The evaluation of investments in infrastructure must seek to understand the degrees to which and the ways in which resources and components are becoming interconnected and mutually supportive. That is, it is not enough to simply assert that the investment led to a new resource. It is critical that the new resource be integrated into and contribute to a large cohesive infrastructure.

- *Infrastructure development typically involves large investments that are aimed at developing capacity over the long term, for the long term.*

One must adopt a long term perspective in assessing investments in infrastructure. The building of infrastructure is a cumulative process, and the contributions that infrastructure components make are similarly cumulative. (The World Wide Web is certainly a good example of this. Imagine if the value of the Web were evaluated three years after its initiation.) But it is also true that good investments in infrastructure should result in the generation of resources that are robust and have long-term value.

Given these general characteristics, what might be some appropriate criteria for evaluating investments in infrastructure? Clearly, not all investments in infrastructure are equally valuable. For example, some dams or bridges that have been built may have been poorly designed, put in the wrong place, or not even needed. What criteria could be used to judge whether an infrastructure investment was wise? How can one distinguish between good and bad investments – between useful and not-useful infrastructure? And how can we apply such criteria to the evaluation of the Regional Labs?

Questions and Criteria for Evaluating the Regional Laboratories

Drawing on the previous discussion, and viewing the Labs quite literally as investments in infrastructure, one could argue that there are at least the following major and broad criteria for evaluating investments made in the Regional Educational Labs. These include and analysis of: 1) the quality of the design of the resources; 2) actual use of the educational resources; 3) user perceptions of quality and value; and 4) overall contributions of the resources to local education systems and broader reform efforts. Each of these broad criteria is discussed in greater detail in what follows, and specific questions for each Regional Lab are suggested as well.

1) An Analysis of the Quality of the Design of the Resources

A new bridge, a library, or airport can all be critiqued vis-à-vis their design. That is, it is very likely that poor design will result in poor performance, while design which is judged to be strong greatly strengthens the probability that the resources will perform effectively as part of the infrastructure. The quality of design determines the potential of a resource for its usage and its value to users.

(Note that this dimension of design is different from that of performance. Design is a characteristic inherent in the structure and quality of the components of the infrastructure and the relationship between them. Design is assessed through critique and review.)

Design of Quality Components and Connections Between Them

High-quality infrastructure consists of a connected set of key components. The infrastructure must act as a coherent and functional whole, where the parts act in concert and in support of each other.

Questions for the Regional Labs

- To what extent does the Lab have identifiable programs, resources and services that have their own identity and integrity? (A good library has clearly identifiable resources and services so that the public can easily figure out how to achieve its own ends.)
- To what extent do the major programmatic and structural components of the Lab have clearly identified functions and roles to play?
- To what extent are each of the major components well-designed and have their own integrity? (Infrastructure such as an airport is made up of sound individual components – e.g., runways, terminal, and parking structures.)
- To what extent are the various components and programs of the Lab designed to work together in a mutually supportive whole (or to what extent are they set up to work in isolation or even in conflict with each other?)
- To what extent are there mechanisms within the Lab to ensure that the individual components and programs have integrity, and that they work in mutual support of each other toward the overall mission of the Lab?

- To what extent is this Lab connected with and mutually supportive of the work of the other Labs? (That is, to what extent is this Lab part of a larger infrastructure which is composed on the national network of Labs?)

Scale and Intended Audiences

Infrastructure should be designed to be capable of serving the potential demand for its service. That is, a bridge should be designed to serve the number of cars that are likely to want to use it. Either too large or too small a bridge compromises the value of the investment made in the bridge. In the same way the Lab's staffing, programs, and other capacities should be on a scale that matches the likely demands to be made upon it.

Questions for the Regional Labs

- Is the staffing of the Lab – in terms of size and expertise – appropriate to the mission and role of the Lab, and to the likely demands for its service?
- Are the programs and services offered by the Lab in sufficient quantity to be likely to meet the demands of likely users?
- Are the activities of the Lab designed in such a way that they are likely to create additional local understanding of systemic reform and thereby increase demand for support for such reform?
- Do the activities of the Lab reflect a deep understanding of the nature of systemic reform, or are they designed in such a way that they are likely to contribute to further fragmentation of efforts and piecemeal reform activities?

Long-term Capacity and Utility

Infrastructure components should obviously have long-term utility. There is little point in investing in a library, bridge or airport if the benefits last only a year or two. Good investments will create capacities in the system that do not exist now and that are critically important to other efforts to improve the system. Unlike programmatic investments, infrastructure investments should be robust over time and pay off over years if not decades.

Questions for the Regional Labs

- Has the Lab identified and designed for those capacities that are 1) lacking in the system now, and 2) critical to the success of other systemic reform efforts? (For example, Labs may be supporting the development of local leaders who are skilled in professional development, or fostering principal leadership vis-à-vis reform, because they see these elements as both lacking and critical to future progress.)
- Are the structures, activities and programs of the Labs designed in such a way that the investments made in them will result in the development of local capacity that will keep providing benefits for many years?
- Are the Labs operating in such a way that they are likely to gain a diversified portfolio of support and thus, assure their own sustainability?

Accessibility and Availability

The infrastructure resources that are invested in should be highly accessible to a wide range of potential users. This means that there should be no obvious barriers to use by all members of the potential user population, no matter their economic status, experience level, age, race, or gender. On the other hand, services and resources should also be tailored and customized so that they best fit the needs, interests, and experiences of different groups of users.

Questions for Regional Labs

- Are the local programs and services produced offered by the Labs designed to be attractive to and accessible to all members of the local educational community?
- Are they designed to attract and serve the needs of people of different groups, ages and levels of interest and experience?
- Which members of the “improvement infrastructure” (e.g., professional developers, curriculum specialists, assessment personnel, administrators) are likely to be best and least supported by the design of the Lab programs?

Flexibility, Connectivity, and Redundancy

In terms of design, infrastructure components should be highly flexible in the ways in which they can be used. Valuable infrastructure resources are designed to fulfill a wide range of functions, and to be easily coupled with other infrastructure resources. In

addition, resources can serve as "back-ups" to each other, so that they support the functioning of each other and fill in missing gaps.

Questions for Regional Labs

- Are the services, programs, or other resources of the Lab designed in ways that permit them to be used in many different contexts, for different audiences, for different purposes? (For example, are research findings made available in such a way that they can be understood and used by users that range from teachers to district curriculum specialists to other researchers?)
- Does the design of the Lab's programs and services allow for and promote interactions with other local and national resources so that they can be coupled together to be used in innovative ways (e.g., research, evaluation, technical assistance)?
- How are the Labs structures and programs designed to support other major national educational improvement efforts (e.g., Goals 2000, Eisenhower programs, Annenberg grants)?
- To what extent are the Lab's programs designed to provide programs and services that are not available elsewhere?
- Is it likely that the design of the Lab will identify un-met needs and generate programs and services that fill an existing "gap" in services?

2) An Analysis of the Actual Use of the Educational Resources

It is important to know the realities of usage of an infrastructure resource. In evaluating a library it is important to know in a detailed fashion who actually uses the resources, how they use it, for what purposes, and to what extent. For example, it is important to know how many books have been checked out, how many people use the reading room or the internet terminals, and which services of the library are requested. It is also important to know who does not use the resource and why.

The Nature and Level of User Demand

There clearly must be a need and demand for infrastructure if it is to be worthy of the investment made in it. (It may be possible that a resource is created before there is a demand for it, as happened in the case of the Web. However, it is not the primary role of the Labs to be the creators of potentially useful resources, and, a Lab that is "too innovative" runs the risk of pushing a kind of "supply-side" reform for which there is little demand or even acceptance.)

Questions for Regional Labs

- What is the level of demand for the services, resources, and programs the Lab offers? How much of the demand is for local services, and how much comes from the reform community?
- What is the match between the services, programs and resources the Lab offers and the real demand that is coming from local educators and local reformers?

- What critical needs and demands exist in the field that are not being addressed by the Lab?

The Nature and Level of Use

The real proof of the usefulness of a component of the infrastructure is the degree to which, and the way in which, it is actually used. In addition, the multiplicity of ways in which it is used is a good measure of its utility. (Certainly electrical infrastructure is used to provide support to a very wide range of activities.) And, as mentioned before, it is crucial to understand who is actually using the resource (and who is not using the resource). Finally, it is important to understand the degree to which the resource is providing sources of support that are unique.

Questions for Regional Labs

- What is the scale and magnitude of the services, programs, and resources the Lab is providing?
- What are the most demanded and used components?
- How many states, districts, schools and teachers are directly benefiting from Lab services? (What is the pathway for such benefits?)
- What Lab programs, resources, and services appear to be in little demand and little used? (For example, is there much use of direct services, of research, of connections to other Labs and OERI?)
- Who are the Lab's most active and involved "users" or "consumers"? Who are the lesser

users? Who are the non-users? (For example, it may be that some districts or states are heavily involved with the Lab while others not at all. The question here is: why?)

- In general, what is the relationship that exists between the Lab and its users? (For example, are there many repeat, loyal users of Lab services and products?)
- To what extent is the Lab serving the reform community and to what extent is it providing direct services? To what extent are these services linked?

3) An Analysis of User Perceptions of Quality and Value

Infrastructure is only as valuable as the trust in it. A water system that is not trusted has much less value than one that is counted on absolutely. Similarly, the post office needs to hold the confidence and satisfaction of its users if it is to be evaluated as performing satisfactorily. Since it is the very purpose of infrastructure to facilitate the activities of others, it must perform in a way that is so trusted and flawless, that it is so counted on, that it is virtually invisible. (Again, think of the degree to which we assume a functional and highly reliable electrical, water, phone, and transportation systems.) Thus, the perceptions of the Lab's constituents and service recipients are critical to its success as infrastructure, and not merely another source of data.

(Note that this dimension requires the evaluation process to identify, contact and interview the key users and non-users of the Lab's resources.)

Quality, Trust, Reliability, Cost-effectiveness, and Value to the User

A program, product, service or Lab resource should be seen as practically useful in its current form, with few major barriers to realizing its full usefulness. Moreover, the resource should be seen as useful and valuable, not in terms of the goals and values of those who supply the resource, but rather in terms of the users' own interests and agendas. Finally, the infrastructure resource must be seen as cost effective – otherwise users will not pay for the benefits.

Questions for Regional Labs

- To what extent does the user community know about the Lab, understand the nature of the work of the Lab, its mission, and the services it offers?
- How do users of the Lab's programs, services, and resources perceive the quality of the Lab's offerings?
- How do users of the Lab's resources rate the reliability and trustworthiness of the Lab's offerings?
- How do users of the Lab's resources rate the overall value of the Lab's offerings?
- What loss would the users incur if they did not have access to these resources, services and programs?
- How do local users rate the quality of staff members they work with?
- How do users of the Lab's resources rate the cost-effectiveness of the Lab's offerings?
- What is the local "reputation" of the Lab's services and staff?
- Why do non-users not use the Lab's services, programs and other resources?

4) An Analysis of Overall Contributions to Local Education Systems and Broader Reform Efforts

All of the previous categories are in a sense prerequisite to this one. That is, it is necessary but not sufficient that the Lab's services and resources be well-designed, be used, trusted and valued by users, and perform well. But the ultimate measure of the value of the investment made in the Labs is the degree to which the presence of the Lab infrastructure is contributing to the local education system and broader systemic reform efforts.

In addition to meeting user needs and demands, we expect investments in public infrastructure to help develop and support resources that contribute to the greater good. That is, the resources should be useful in fulfilling functions that are valued within the national social and educational agenda. Thus, libraries contribute to reading, literacy, and education. On the flip side of the coin, infrastructure components should address some critical disjuncture that would threaten the overall health of the system if they did not exist.

Providing Infrastructure for Systemic Reform

The Regional Educational Labs provide direct services to local educators, but they also provide infrastructure to those engaged in promoting "standards-based" reform. Thus, the work of the Lab should be bridging critical disjunctures in the overall reform effort.

Questions for the Lab

- To what extent has the Lab identified and developed productive working relationships with key people and institutions engaged in educational reform?
- How does the existence of these resources contribute to the bridging of what otherwise would be a critical disjuncture in the nation's educational system? What is its "niche" in the array of existing educational resources?
- What are the major ways in which this Lab contributes to the broader national and state efforts to promote standards-based and/or systemic reform?
 - How does the work of this Lab amplify the quantity of reform activities occurring in its Region?
 - How does the work of this Lab improve the overall quality of reform activities in its Region?
 - How does the work of this Lab improve the inclusiveness of reform activities in its Regions so that educational reform is more likely to lead to greater equity in educational opportunities?
 - How does the work of this Lab help to lower the overall costs of efforts needed to improve the quality of education within the Region?
 - To what extent are the contributions of this Lab productively redundant (i.e., not completely duplicated by others)?
- What are the major dimensions of systemic reform in which this Lab is making the greatest contributions?

- How does the work of the Lab contribute to the development and implementation of high-quality:
 - standards?
 - curriculum and professional development?
 - professional development activities?
 - assessment instruments and/or accountability practices?
 - efforts to identify and address key policy issues that are central to systemic reform?
 - efforts to develop and support key reform leaders at all levels?
 - efforts to increase public understanding of and demand for systemic reform?

- How does the work of the Lab contribute to the development and dissemination of research that is useful in promoting systemic reform efforts?

Long-term Capacity Building and Establishing of Local Infrastructure

- To what extent does the work of this Lab provide support to local schools and districts that helps to build their local capacity (knowledge, expertise, and leadership abilities)?
- To what extent does the work of this Lab result in long-term sustainable state and local infrastructure that can continue to support local reform efforts? (For example, the Lab might help to initiate and institutionalize state-wide teacher networks.)
- To what extent does the work of this Lab provide a nucleus for significant reform work to be housed at or come through the Lab? (That is, the Lab may create a Regional

Center that is capable of attracting outside funding and connections with major national reform efforts like the NSF systemic initiatives, Goals 2000, or curriculum development projects.)

- To what extent does the Lab assist in the "scaling up" process? (That is, does the work of the Lab help to amplify the reach, impact and/or quality of other improvement efforts? Such efforts might include disseminating curriculum, housing large-scale professional development programs, providing leadership training and/or technical assistance, or helping to find funds for reform.)

Generation of Knowledge

To the extent the Labs serve as infrastructure for research and for innovative experimental projects, the Labs can help to produce and disseminate all kinds of knowledge useful to reform.

Questions for the Regional Labs

- To what extent is the Lab engaged in cutting-edge research that is resulting in new knowledge that is useful to others engaged in reform activities?
- To what extent is the Lab careful to document and share the "lessons learned" from its "non-research" work?
- To what extent is the Lab serving as a "knowledge broker" or "information clearinghouse," so that the Lab is a source of information for both local and national users?

- To what extent is the "specialty area" of the Lab, in fact, an area in which it is making a significant contribution?

Marketability and Cost-effectiveness

In addition to fulfilling important societal needs, infrastructure resources must be "marketable." While they may need some level of public subsidies, ultimately infrastructure components must be able to generate market demand and support (e.g., bus systems must draw riders willing to pay at least part of the fare). Finally, at least in some rough sense, the level of public investment should be commensurate with the level of public benefits that accrue.

Questions for Regional Labs

- To what extent (and for what functions) do state and local educational agencies and institutions contribute their own monies for Lab resources and services?
- To what extent are the Lab's resources combined with the resources of other reform efforts in order to create projects that supercede the capability of any individual organization?
- To what extent does the Lab bring wanted services and resources to the local setting?

Critical Competitors

The services, programs and components of the Lab must complement and add value to other such programs and resources that exist in the area. The Lab should be providing only those supports that they can do at a comparative advantage to the others. (Note that it is not necessarily bad to offer "redundant" services.)

Questions for the Regional Lab

- What is the overlap between the services, programs and resources the Lab offers and those same services that are offered by other institutions (e.g., private labs, universities, county offices, BOCES, etc.) ?
- In what areas does the Lab have a comparative advantage? Disadvantage? (It would make sense for a Lab to conduct a curriculum development project if their staff and national connections allowed them to create a much higher product than either locals or other Labs could do.)
- To what extent are the programs, services and staff of the Lab being used so that they complement the work of other systemic reform activities?

Summary

The framework presented here is not complete and will not provide a detailed protocol for reviewing a Regional Educational Lab. Rather the intent of the paper is to provide a perspective, broad criteria, and some suggestive questions that can be used to develop more detailed review protocols. By asking broad and quite general questions, the framework is meant to be generative, not prescriptive.

This paper has tried to present a different perspective on the investments the federal government and others are making in order to improve the educational system. The notion that such investments are intended to provide much-needed infrastructure for reform is, we think, quite sound. Also, the idea that the return on the investment comes in the form of infrastructure has significant implications for evaluating the investments that are made. In particular, the ideas presented here suggest that the Labs should be evaluated in much the same way that one might evaluate an investment made in a new airport, library or communication system. The value of these kinds of investments and projects are best understood through looking at the quality of their design, the demand for and actual use of their resources, the perceptions of users and non-users, and a summative evaluation of the ways in which they contribute to activities that improve the functioning of society. This approach, we hope, will create a means for evaluating investments in ways that are rigorous, but also are appropriate to the nature of the intended benefits of the investments that are being made. If we can not find a way to evaluate investments in infrastructure in credible and legitimate ways, we will continue to discourage such investments, even though they are very much needed, because we will continue to find that our evaluation methods can not prove that such investments lead to direct impacts on student achievement.