

CLARK COUNTY MONITORING SYSTEM: PART II

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ABSTRACT

Since 1988, Clark County, Nevada (“Clark County” or “the County”) has been designated by the Department of Energy (“DOE”) as an “Affected Unit of Local Government” (“AULG”). The AULG designation is an acknowledgement by the federal government that activities associated with the Yucca Mountain proposal could result in considerable impacts on Clark County residents and the community as a whole. As an AULG, Clark County is authorized to identify “[a]ny potential economic, social, public health and safety, and environmental impacts of a repository” 42 U.S.C. Section 10135(c)(1)(B)(i). under provisions of the Nuclear Waste Policy Act Amendments.

In 2004, Clark County Comprehensive Planning Department’s Nuclear Waste Division implemented a Yucca Mountain Monitoring Program designed to capture changes to the social, environmental and economic well-being of its residents resulting from the Yucca Mountain Project and other significant events within the County. The monitoring program acts as an “early warning system” that allows Clark County decision makers to track and proactively respond to impacts from the Yucca Mountain Project including those that may result from high-level nuclear waste and spent fuel shipments to Yucca Mountain. This paper provides an update on our the Monitoring Program, which has been refined and expanded to monitor changes not only for Clark County governmental agencies, but also regional agencies across Southern Nevada and all of the incorporated jurisdictions within Clark County. The paper will examine the lessons learned in implementing a Monitoring Program at this unprecedented scale, complexity, and duration.

INTRODUCTION

Since 1988, Clark County, Nevada (“Clark County” or “the County”) has been designated by the Department of Energy (“DOE”) as an “Affected Unit of Local Government” (“AULG”). The

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In 2004, Clark County's Nuclear Waste Division and its consultant team implemented the original Yucca Mountain Monitoring Program. The Yucca Mountain Monitoring Program was designed in furtherance of the Clark County's Impact Assessment Report (Conway, 2002). This seminal work on the potential impacts of the transportation and storage of high-level nuclear waste at the Yucca Mountain Nuclear Waste Repository analyzed economic, fiscal, environmental and public safety considerations. The Yucca Mountain Monitoring Program was developed to provide a foundation for on-going policy discussions and a baseline from which economic, fiscal or social changes could be monitored over time. Importantly, it also functions as an “early warning system” identifying statistically-significant trend shifts occurring over time. In other words, it provides form to the functions and responsibilities borne by Clark County as an AULG.

During the past 18 months, the Yucca Mountain Monitoring Program has evolved significantly. While it remains a work in progress the program has been refined, expanded and renamed. It is now commonly referred to as The Clark County Monitoring Program (herein, “the Program”). This renaming was not merely aesthetic; rather, it was intended to prevent any misconceptions over the Program’s intent (i.e., to focus on measurable community conditions as opposed to the facility itself), and, as will be discussed further herein, to reflect the inclusion of sub-regional geographies within the County.

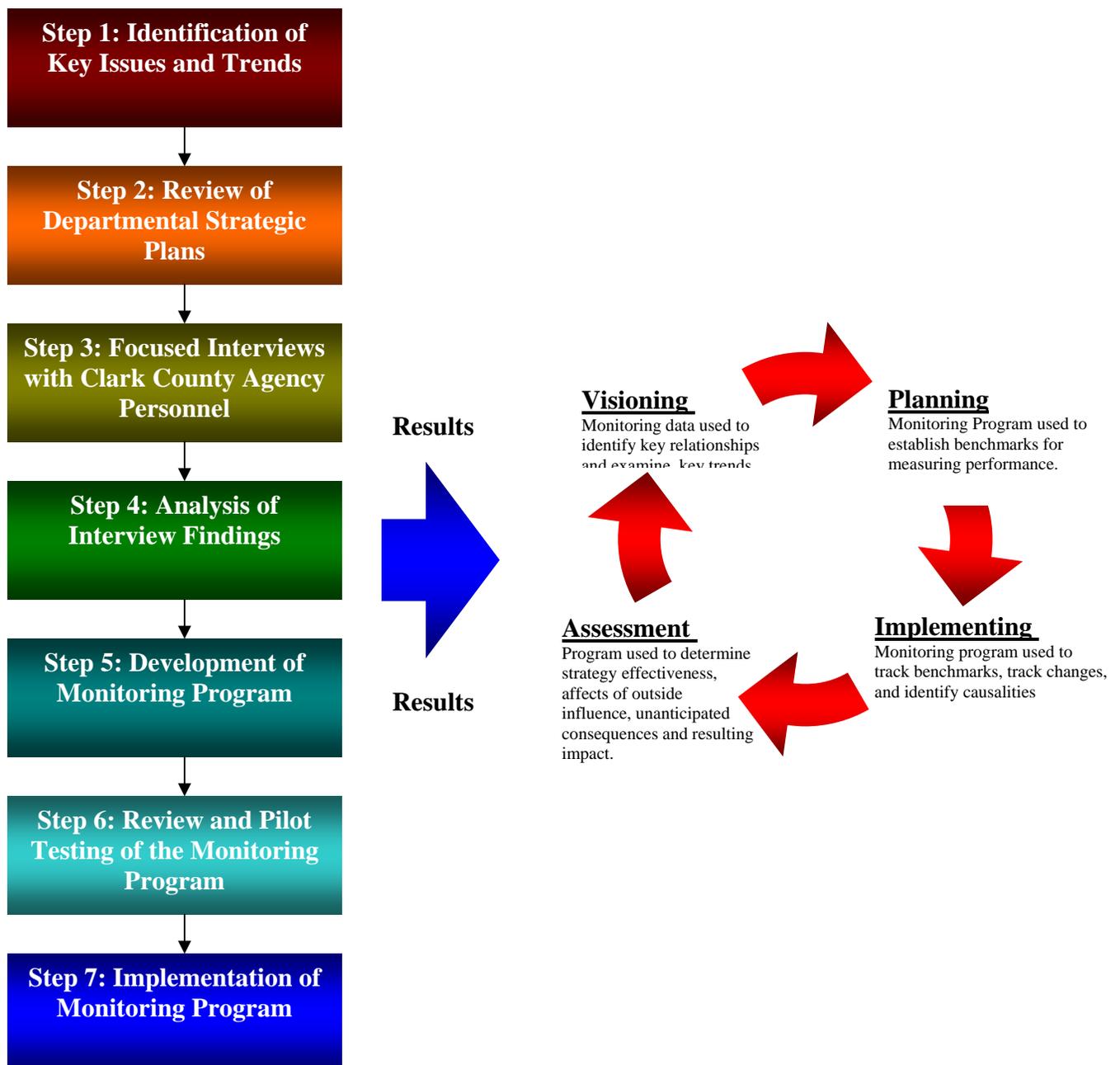
During 2004, the Clark County Board of County Commissioners also commenced the Community Growth Initiative (the “Initiative”). The Initiative was intended to create a forum to discuss the benefits and challenges that come with being the fastest-growing community in the United States. As part of this process, Commissioners formed a Community Growth Task Force (“the Task Force”) to study growth matters and engage in public debate. The Task Force was comprised of 14 private sector representatives, including members of the business groups, developers, environmentalist and civic leaders. A draft of the Program’s website was introduced to the Task Force in January 2005. It was strongly accepted and many enhancements were requested. As part of its work product, the Task Force recommended that the County development and maintain an expanded version on a go-forward basis.

The Program has grown by leaps and bounds during the past 12 months. This growth, however, has not been free of challenges. This missive provides an update on the Program, including recent refinements, additions and expansions. Additionally, this paper also highlight some of the key lessons learned in implementing a Program at this scale and designed to track impacts that may result from high-level nuclear waste and spent fuel shipments to Yucca Mountain.

CURRENT YEAR ENHANCEMENTS

Perhaps the most important enhancement made to the monitoring program is its expanded scope and purpose. The process outlined in the first of this series of articles, *Clark County Monitoring System* (Navis and Conway, 2004), has been effectively integrated into the four primary comprehensive planning functions: *visioning*, *planning*, *implementing* and *assessment*. Designed, developed and focused on assessing the impacts of transporting high-level nuclear waste through Clark County's population centers, the utility of the Program and the information it contains add value at each turn in the process.

**FIGURE 1:
MONITORING PROGRAM INTEGRATION DIAGRAM**

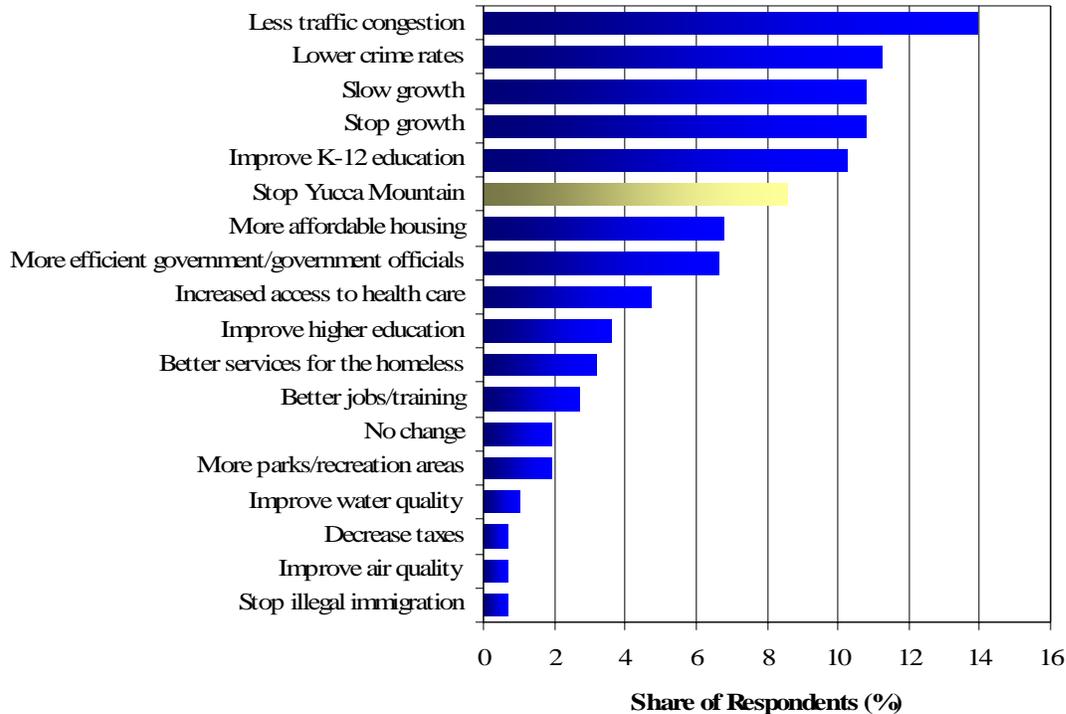


The amount of information tracked by the Program expanded by roughly 32 percent during 2005. Interviews with department-level staff highlighted additional impact areas, improved technology increased information access and added awareness regarding the informational benefits of the Program helped researchers identify and mine new datasets. During 2005, Las Vegas-based Urban Environmental Research prepared an updated assessment of the public health and safety impacts associated with various high-level nuclear waste transportation scenarios. This concurrent effort was particularly helpful in refining differences among local public safety providers and synthesizing each provider's nexus to impact assessment.

Changes to the economic landscape, fiscal system performance and the social environment are ever-present. Without a consistent historical basis, it would be difficult, if not impossible, to assess how a change in policy or an exogenous factor impacted the economy. The quantitative, statistics-based indicator research provides this baseline for performance measurement. It reviews and analyzes hundreds of statistics on economic performance (e.g., employment growth, unemployment and housing starts); fiscal performance (e.g., property tax collections and justice system costs); public health and safety (e.g., the crime rate, fire safety response times and police officers per 1,000); and social condition (e.g., income growth, poverty and welfare caseloads). While extensive in its reach, this construct lacked a key dimension. It would reflect, for example, if more police officers are put on the streets, but not if people are feeling safer in their homes. It would reflect whether housing prices are above or below national averages, but not if citizens believe homeownership is an attainable goal. It would reflect whether the community was constructing additional lane miles of roads, but not if citizens were finding it easier to get from home to work each day. Only through a survey of community sentiment could these important impact-assessment questions be integrated into the broader construct. The Program was expanded in the summer of 2005 to include a broad-based community survey as a complement to its statistical baseline.

In addition to the broad assessments outlined above, the survey also includes targeted issues tracking specific to the existence of the Yucca Mountain Nuclear Waste Repository. As that project moves forward through licensing, or as the federal government releases additional details about transportation plans for transporting waste, the survey will help elected officials in the community better assess whether residents are becoming increasingly concerned about the repository or adapting to its presence without issue. Consider, for example, that when residents were asked, "What is the most important change that could improve the quality of life in Clark County", one out of every eleven respondents cited "Stop Yucca Mountain." This factor may or may not change when high-level nuclear waste shipments begin being transported through the Las Vegas Valley. Over time, however, a comparison of qualitative and quantitative indicators can be utilized to segment community impacts associated with the repository's presence from those consistent with existing trends or with distinct causal relationships.

FIGURE 2: COMMUNITY SURVEY RESPONSE DISTRIBUTION
“What is the most important change that could improve the quality of life in Clark County?”

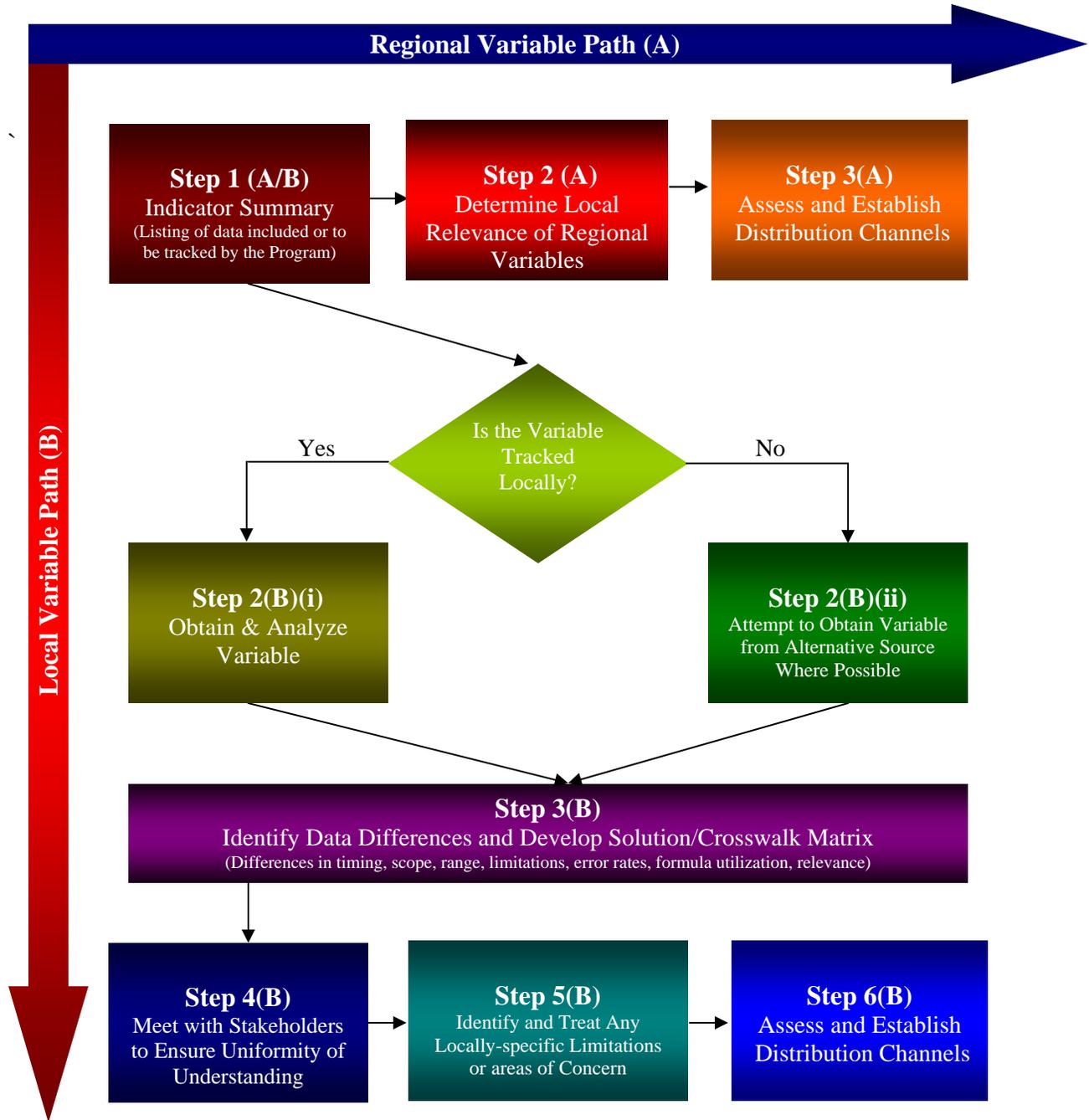


Community wide integration was the theme of 2005. What started as a series of independent efforts has become a community cooperative. All of Clark County’s cities are or will be contributing to the effort by the close of 2005. Clark County’s government continues to expand its use of the indicators program through resource development, management presentations and refinement of improved tracking and monitoring measures for traditionally under-represented services. Additionally, while regional data are being requested, analyzed and disseminated on a routine basis, on-going meetings with staff representatives at local government entities will be completed by the close of 2005. These meetings are already being translated into comparative analyses and specific programs that can be easily integrated with locally-based information tracking efforts; and, by the close of 2006, these data should be uniformly housed, tracked, analyzed and reported under the Program.

Sub-regional integration is no trivial pursuit. Whether a variable (e.g., multi-family units permitted) is region or local in nature, it may quite unique significance to any particular jurisdiction (e.g., what is classified and multi-family, is the sub-region dealing with an affordable housing problem). These differences raise important political and technical issues that need to be addressed to ensure the validity of comparative statistics or assessments. To be effective both qualitative and quantitative assessments must be uniform. A variable-by-variable assessment is foundational here; although, the indicator survey data discussed above also provided unique and helpful insights into the relevance of certain variables to the public and the extent to which local

governments effectively meeting their concerns. Putting more police on the streets in one area, for example, may concurrently decrease crime in one region while increasing it in another. The importance of police service to populations in each region, however, will impact how the regional quality of life is impacted. While more complicated in practice, this analogy can easily be extended to high-level nuclear transportation accident occurring in one region versus another. Figure 3, on the following page, provides a significantly over-simplified summary of the sub-regional viable integration process.

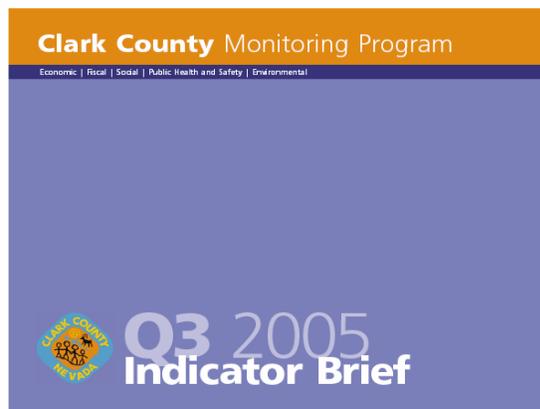
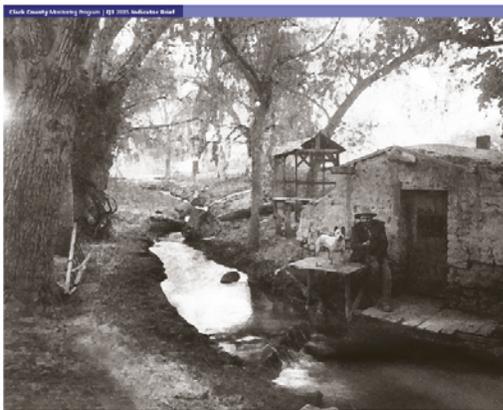
FIGURE 3: REGIONAL AND LOCAL VARIABLE INTEGRATION



Broader information dissemination also became important during 2005 as the number of Program users and functions began to increase. Policy changes are complex; and as such, it would be terribly naive to attribute any particular change in a policy decision or local action to the mere presence of the Program. This having been said, the information compiled and reported as part of the Program has been present in a number of recent policy discussions and is in the process of being integrated into several additional government functions. These include, without limitation, improvements to the County's Nuclear Waste Program, Clark County's performance measurement initiative, increased awareness regarding spikes in child protective services caseloads, integrated transportation planning models and affordable housing challenges. Data produced by the Program has been used to analyze fire response time challenges in and around the central business district and to identify economic diversification patterns.

Two additional documents were generated to assist in increasing the communication efficiency of the Program: 1) the publication of a quarterly briefing document and 2) the routine issuance of quarterly indicator briefs. There was simply too much information routinely generated by the Program to be usefully assimilated. The quarterly briefing document attempts to address this issue by synthesizing the data within each of the core assessment areas (i.e., economic, fiscal, social, public health and safety and environmental) into encapsulated trend summaries. It is designed to be easily read, flexible and pertinent to a number of users. It is not technical in design or content. Concurrent with the *Q3 2005 Indicator Brief*, the Program's website recorded its highest number of weekly visits, page views and hits, reflecting increased interest in the Program and the importance a concise, executive level summary.

**FIGURE 4
SELECTED PAGES FROM THE
CLARK COUNTY MONITORING
PROGRAM INDICATOR BRIEF
Q3 2005**



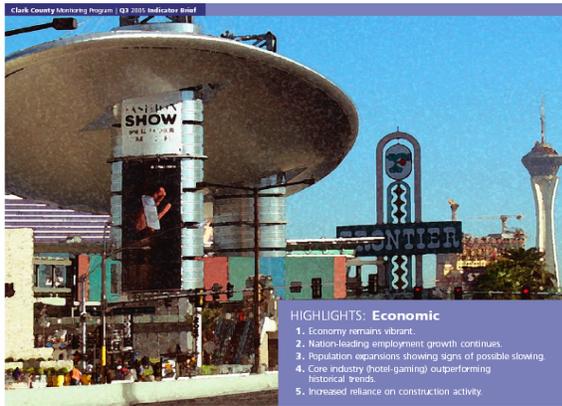
The Indicator Brief is a publication of the Clark County Monitoring Program. The Monitoring Program was developed to provide a foundation for on-going policy discussions and a baseline from which economic, fiscal or social changes could be measured over time.

As a briefing document, the Indicator Brief is not intended to be comprehensive. Rather, this summary is intended to highlight the salient findings of the research conducted during the third quarter of 2005. It is subdivided into the program's five core study areas: economic, fiscal, social, public health and safety and environmental. Substantial additional information is available on the Monitoring Program's webpage www.monitoringprogram.com.

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Economic:

While remaining remarkably strong, the Southern Nevada economy appeared to enter a period of possible transition during the third quarter of 2005. Clear skies became a bit cloudier as signals of slowing emerged in some key sectors and apprehension over sustainability and growth dependence became more pronounced.

How changes were not unexpected. The pace of expansion set during the preceding 18 months was spirited but unsteady. Although incoming data highlighted some downside risks, Southern Nevada's economy has evolved to become more diversified, more productive and more efficient during the current business cycle. The economy is configured for growth; however, its ability to adapt to changing conditions may be the greater test of its resiliency.

Clark County continued to lead similar-sized economies in terms of population and employment growth. At 2.6 percent, Nevada also ranked first in the nation in terms of personal income growth between the first and second quarters of 2005. Personal income gains appear to have a greater relationship to the volume of consumers as opposed to the wealth of existing consumers. During the past 12 months, incomes increased by slightly more than 6.0 percent, less than the 7.6 percent gain in employment and just one point greater than the rate of population expansion.

Population increases remain robust after peaking during mid-2004. Driver's license surrenders, a key gauge of population expansion, are five percent off 2004's pace. In August 2005, the most recent data available, surrenders were

off a higher than expected 15 percent. Importantly, the August comparison was against the single-largest monthly value reported in history (August 2004). Escalating dependency on the construction and real-estate sectors suggests that a material slowdown in population growth may lead to broader instability. While warranting a watchful eye, conditions at present are more indicative of a soft landing than a systemic infirmity.

The economy is adding an average of 5,200 jobs per month and the region's core industry, hospitality and leisure, has rarely if ever, been stronger. Visitor volumes are approaching 40 million annually and have reported improved growth rates in the wake of Wynn Las Vegas opening in late-April 2005. Gross gaming revenues posted double-digit growth rates as have hotel room rates, airport traffic, and convention attendance. Projects with announced completion dates total more than \$15 billion worth of new investment, underscoring the industry's confidence in present conditions as well as the market's growth potential.

The hotel-gaming industry's performance is undoubtedly impacted by the health and stability of the global economy. The national condition appeared to weaken during the quarter as energy costs continued to rise as did the un-

employment rate and consumer confidence fell by the greatest margin in 15 years. Blame for these trends is commonly credited to hurricanes Katrina and Rita; however, evidence that the momentum in household and business spending was dissipating existed prior to these events. It is more likely that they intensified the soft patch as opposed to creating it.

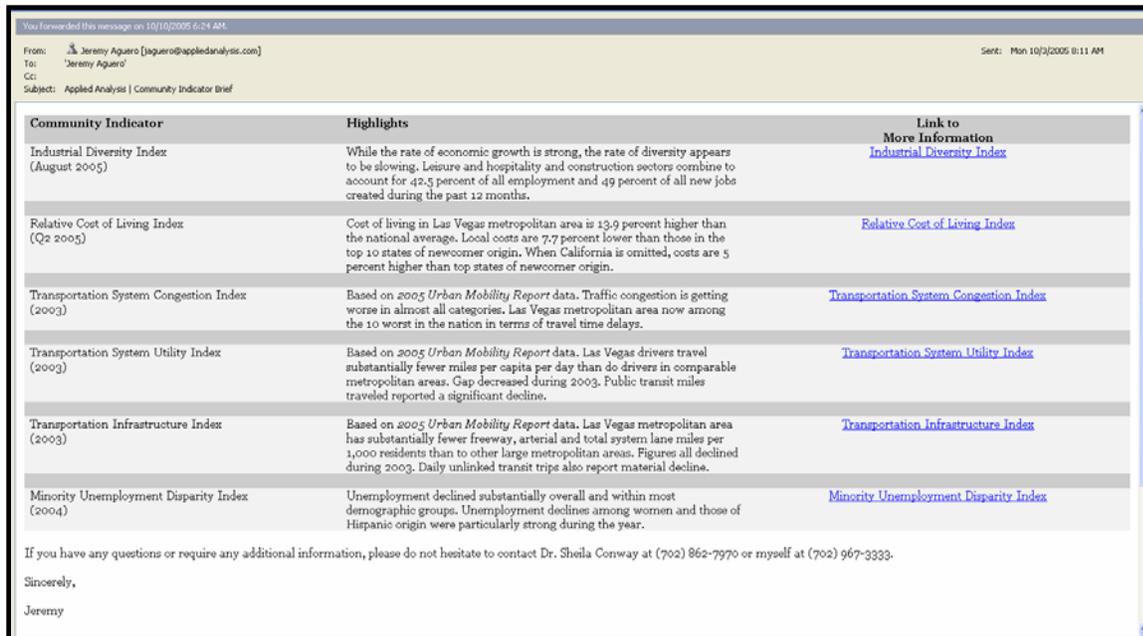
In addition to softer domestic economic conditions, the emergence of the Asian flu, construction costs inflation and a widespread housing shortage all identified as hotel-gaming industry challenges during the quarter. Though we recognize their existence, they have had little measurable effect on the industry's performance and there is no indication that it has weakened fundamentally.

Clark County's construction industry is the region's fastest-growing sector. Expanding at an annual rate of 15 percent, more than one out of every four new jobs created during the past 12 months have been a construction-related job. While demonstrating some signs of resurgence

construction near zero

The second of the communication enhancements is the weekly monitoring program email briefings. These documents highlight those indicators updated during the past week as well as the salient findings of each in one to two sentences. The intent here was to balance the demand for current information with the problem of user information saturation. Moving to the e-briefing format proved an effective means to balance these needs, particularly when hyperlinks to more information were included (as opposed to Adobe attachments). E-briefings are released on Monday morning; and, while extremely dependent on the type of information released each week, appear highly correlated with increased user figures.

FIGURE 5
SAMPLE CLARK COUNTY MONITORING PROGRAM E-BRIEFING
(RELEASED DATE: OCTOBER 3, 2005)



A related, but somewhat different, communication issue that arose during 2005 was that of general public relations. An increased volume of Program-related inquiries were sourced to governments, the press and professionals seeking to learn from the Program's successes and

failures. Additionally, the Program found an increasing role in recent policy discussions increasing its profile through the public and private sectors. Public officials touted the Program's value in developing and maintaining critical community awareness and private sector found value is assessing market conditions, identifying potential issues and monitoring general economic performance. The Program itself was a key component of the televised public hearings surrounding the Clark County Community Growth Task Force. It was also held up as an achievement at the Board of County Commissioners meeting, after the effort was awarded the Nevada Chapter of the American Planning Association's 2005 DeBoer Excellence in Planning Award. Both the Program and its fruits have been highlighted in a number of articles in local papers, including, without limitation, *Price of vacant land skyrockets* (Las Vegas Review Journal, Sept. 30, 2005); *Rapid growth drains Nevada fuel supply* (Las Vegas Sun, Sept. 23, 2005); *Struggling to build a diverse economy* (In Business Las Vegas, Sept. 16, 2005); and *Local development activity rises from year ago, data show* (Las Vegas Review Journal, Sept. 16, 2005).

Generally speaking, general communications and outreach for Project have been an unmanaged effort. Like many of the benefits of the program itself, this was somewhat of an unintended consequence and one that will likely demand increased resource allocations through the next year.

KEY LESSONS LEARNED

1. Communication is Vital

There is probably no more important lesson learned than developing an effective communication system is a condition precedent to establishing a program that will receive stakeholder buy in. Both ends so the spectrum provide serious challenges. Failure to distribute information in a timely manner makes the effort irrelevant from the user perspective. In turn, inundating users with information that they view as "spam" is frustrating and results in significant user attrition. Our communication approach appears to be both effective and efficient. While we are certain that additional refinements will be required over time, positive feedback is at an all-time high and negative feedback at an all time low.

2. Flexibility is Key

The learning curve in project such as the Clark County Monitoring Program is steep and the required players are many. Having unrealistic expectations that social services or fire protection personnel will have an understanding of statistical significance, the importance of uniform collection or subtleties of variance only complicates the process and frustrates users. Perhaps of equal importance is the unrealistic belief by some researchers that they understand all of the factors influencing the need for child protective services or fire departments rural response capabilities. Any monitoring effort is built on a desire to better understand the community and what impact it; it is a continual learning process. Researchers, public officials, contributors and users must understand and accept the fact that some indicators will change over time, that some data sets will be determined irrelevant while others will become critically important and that

change is symptomatic of improvement. Inflexibility in design, content and/or approach is a death blow to any monitoring program.

3. The Program Cannot Be Everything to Everyone

The Clark County Monitoring Program is designed to establish a baseline of information necessary to effectively measure the impacts stemming from the transportation and storage of high-level nuclear waste within Southern Nevada. The economic, fiscal, social and environmental data collected have significant utility beyond this primary purpose. Thus, some users put pressure on researchers to include information with a questionable nexus to the Yucca Mountain Project. Two solutions have been devised to address this issue. First, a rationale statement has been or will be added to each of the indices included in the Program. These statements that are cleared through Nuclear Waste Division and legal staff have helped quell the demand for extraneous information and analyses. Second, we have identified a second funding source for analyses outside the Program's initial purview. Thus, when requests are deemed necessary by County administrators funds can be made available to dedicate additional resources to the project.

4. Qualitative Variables Are Necessary

The vast majority of monitoring or community indicator efforts focus on the empirical, performance measurement data routinely available (e.g., the number of crimes committed, employment, or welfare caseloads). While these are vitally important, they often omit outcome-based assessments that consider the effectiveness of service provision, its relative importance and/or the perception of consumers (in this case a community's residents). If researchers fail to ask and monitor whether residents feel safe, whether they are concerned about housing affordability, or whether the transportation of high-level nuclear waste shipments are likely to impact their quality of life analysis their analyses will always be two dimensions, lacking the depth that comes with outcome-based assessment.

5. Maintaining Independence is Paramount

Analysts tend to live in a world controlled by the comforts of ones and zeros. Community-based information and assessments, however, are inherently political. Thus, while researchers maintain a significant information asymmetry, any attempt to exercise this advantage to advance a political advantage will be fatally compromise the work product. In the case of the Clark County Monitoring Program research express no opinion regarding whether the Yucca Mountain Nuclear Waste Repository will be good or bad for Nevada, we simply express the measurable benefits and drawbacks to the program and its related functions (e.g., transportation).

CONCLUSION

Complex, long-term, evolving programs such as the proposed high-level radioactive waste repository at Yucca Mountain have the potential for impacting affected units of government, including Clark County, over time. It is important, therefore, that reliable, innovative analysis and dynamic tracking tools be developed to provide decisionmakers and the public with

information that provides an accurate, timely, and relevant picture of past, present and future conditions. The Clark County Monitoring program, with all of its integrated components, provides a resource upon which all affected stakeholders can rely for baseline setting now, and for tracking changes well into the future.

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