

In pursuit of summary statements about values and concerns

OHGjr

This report begins with an analysis of 882 surveys that was accomplished with a simple dictionary that generates coding summaries in less than a minute. A second set of analyses was based on a larger dataset that incorporated a second set of surveys (n = 830). A concern about the impact of the events of 1.8.11 on the dominant trend in comments was apparently unfounded as the correlation between the dictionary coded surveys gathered prior to the event and those gathered after that date was quite high (0.098).

In addition to the substantial saving of time and effort provided by the dictionary approach to coding, this approach is valued because of the nature of the data matrix that is generated as output. With counts of codes for each survey, a broad range of analytical approaches can be supported. These are primarily quantitative approaches based on correlations across respondents. The present analysis stops at a preliminary level in this class of possibilities. For those who might be interested in going further, the complete data matrix is available.¹

It should also be noted that this analysis does not include the data generated through the coding of community conversations. It should be understood that the circumstances under which those data were generated differ quite substantially from those that are more common to individual survey responses. It should also be noted that the dictionary does not perform as well with the conversation data as it does with the survey data ($r = 0.767$ vs $r = 0.911$).

Analysis of priorities

A general sense of what the community likes and dislikes about the region can be derived from an analysis of what they include in statements about what they like and what they would like to change about the region. The following tables present the top ten likes and desired changes identified by the first 882 survey respondents.

¹ NOTE: the default Dictio matrix is the number of counts for the appearance of dictionary terms within each survey. The resultant correlations are not based on individual question items, but the sum of their codes in a survey. So a correlation [across cases] reflects the patterns [relationships] between two codes within each survey. However, the analytical possibilities inherent in the dictionary were explored through an analysis of responses to the the sets of Like and Change coded questions. Each analysis tripled the number of cases to be processed.

First Group, **Things I like Best**

Natural Environment\Weather and climate	217
Natural Environment	105
Regional Character\Community and Neighborhoods\Friendly, relaxed and small town feel	94
Natural Environment\Mountains	73
Natural Environment\Desert	68
Properties and dimensions\Beauty	55
Properties and dimensions\Diversity	55
Regional Character\Community and Neighborhoods	44
Education\Colleges and Universities\University of Arizona	37
Social and Cultural Environment	34

First Group, **Things I would Change**

Governance and politics	122
Accessibility and Transportation	101
Built Environment\Functional layout	63
Built Environment	52
Governance and politics\Policy, planning and regulation	50
Built Environment\Downtown	49
Accessibility and Transportation\Traffic and ease of travel	40
Education	40
Accessibility and Transportation\Public transit	38
Governance and politics\Leadership and vision	38

By setting the dictionary preferences to the first level of analysis that generates counts for statements at the individual variable level, it is possible to provide a more precise assessment of respondent concerns. This approach was pursued with regard to answers to questions about what respondents liked, and what they wanted to change (2,646 text units for each).

The number of responses is reported by category type and by the order of the responses (first, second, third). The assumption here is that the order in which they were listed represents to some degree, the importance of these interests to the respondents.

Things We Like

We Like the Natural Environment (67/35/19)

We love the Climate (197/107/66)
We like its Beauty (55/37/15)
Especially the Mountains (72/54/26)
The Desert (65/36/15)
And the wide Open Spaces (32/14/7)
And our Ease of Access to them (27/29/21)
And the (current) Air Quality (10/2/3)

We also like the People of the Region and the way we get along

Reflected in our appreciation of Diversity (52/46/39)
As well as Culture and Ethnicity (23/38/25)
Across the Social and Cultural Environment (22/35/27)
Perhaps attributable to our Friendly, small town feel (71/66/47)

We think that there is plenty to do in and around the region.

Activities and Events (21/20/23)
Including outdoor recreation like hiking (15/17/14)
And the Arts, even though they aren't first (15/22/36)
Neither is Sports (0/4/7)
Most of these activities are available through the University of Arizona (31/47/38)
And then, there's Shopping (1/9/4)

Things we want to change

We need to improve our transportation systems [traffic, accessibility, public transit, biking].

For Traffic, most references were first (30/15/20)
This is true also for Accessibility and Trans (70/50/26)
For Public transit, more references came second (34/41/27)
There was not much of a difference with regard to biking (13/14/16)
Or for Functional layout (45/42/38)

As for growth, mixed use, density and sprawl

For Growth, emphasis was early (36/30/21)
For Mixed use as well (11/12/5)

As for Downtown and activity centers

Only 23 codes for activities and events as there was not much change being sought: 6/7/10)
The same was observed for arts/music/cultural events (3/8/13)
Only 8 for shopping (4/4/0)
For Downtown, the emphasis was on the second level (44/56/28)

Business and the economy

For Economic environment, the emphasis was concentrated (15/6/7)

Jobs were more important, with a similar pattern (26/15/22)
There were only 17 Businesses codes (9/3/5)

Education

Education was important, but not most important (48/58/45)
The pattern was similar for K-12 (13/20/16)
And marginally different for Funding (8/7/5)

Governance and Politics

Governance and politics was high on the public agenda (89/53/43)
As was the question of leadership and vision (38/16/12)
Policy and planning was less so (18/25/21)
And Institutions mattered least (3/2/5)

Managing Resources and Sustainability was of limited interest as a target of change

Managing resources (3/5/6)
Water (11/12/11)
Conservation of resources (5/9/6)
Solar energy (4/5/3)

Well being was also not much of a concern

Health and happiness was not high on the change agenda (2/3/9)
However, crime and safety was (21/21/18)

Data Reduction Approaches

With a database containing nearly 100 codes, or variables, a primary challenge for developing meaningful statements about what the population (and perhaps segments of that population) values or is concerned about is to select a method for reducing that large number of variables to a smaller set. Ideally, that smaller set includes a number of items that reflect some common core or structure.

Two different approaches have emerged as popular options. They differ primarily in terms of the mathematical and theoretical basis for the identification or extraction of the data that are used in the generation of summary statements. Factor analysis produces factors on the basis of the correlation between variables and the underlying (unmeasured) factor. Cluster analysis, used frequently for characterizing groups of products, or the groups that purchase them, generates groups, or clusters, on the basis of similarities or differences between clusters, defined in part on the basis of the similarities within those clusters.

Although the goal of factor and cluster analysis is data reduction, it is often necessary to perform some initial reductions to increase the likelihood that a meaningful solution can be generated. This means eliminating codes that demonstrate a limited potential for helping to identify the dominant themes. This was done in two stages governed by

different rationales. The list of 98 codes was reduced initially by retaining only those codes that had a substantial presence in the dataset. The average number of counts for each of the 98 hand-coded variables was 188. By selecting only those codes that had at least 90 counts, 70 variables were retained for analysis. The second reduction was based on the communalities among variables revealed in the first factor analysis.

The factor and cluster analyses were performed with SPSS (PASW 18).

Factor Analysis

On the basis of an initial factor analysis it appeared that there were really five factors explaining most of the variation in the dataset. However, the varimax rotation failed to converge, suggesting the need to re-run the analysis on a still smaller number of variables. On the basis of the communalities between variables and the factors generated by the unrotated solution, two sets of variables were identified (32 with coefficients < 0.6) and (38 with coefficients > 0.60). Those with smaller coefficients are less closely linked with the full set of factors than those with higher coefficients.

Using the more highly correlated variables ($n=38$), 16 factors were extracted and convergence in the rotated solution was achieved in 18 iterations. In order to increase the ease of identification and labeling of the resultant factors, factor loadings, reflecting the correlation between the variable and the underlying factor were suppressed if they were less than .30. The first seven factors identified in table 1 account for 30% of the variance among the 38 variables. Table 2 includes five additional factors interpreted on the basis of the primary loadings. None of the variables achieved that cut-off point in the remaining four factors, and they have been excluded from the analysis.

Table I: First Seven Factors and their components (882 cases)

1 Enjoying the Region (1)	Open space, <u>vehicles</u> , arts/cultural events, natural environment
2 Mobility Transportation	<u>Public transit</u> , <u>accessibility/transportation</u> , biking, <u>functional layout</u>
3 Enjoying the Region (2)	Activities and events, outdoor activities, recreation/hiking/exercise
4 Prepare the Kids	<u>K-12 schools</u> , <u>children</u> , <u>teens</u> , <u>future generations</u>
5 Sustainability	Biking, <u>managing resources</u> , <u>water</u>
6 Party Downtown	Exciting and vibrant, <u>downtown</u> , U of AZ
7 Development	<u>Economic engine</u> , <u>Leadership and vision</u> , Social and Cultural Environment

Using the Code Relations Browser a ratio of likes/change was computed for each hand-coded variable. If the coefficient was < 0.5 , the code was characterized as reflecting respondents' desire to change or improve the target of the code. Those codes are underlined in the table.

Factor I: **What people like about the region.** There are a great many different things that people like about the region. Part of the challenge is to identify what the underlying attributes are that make that particular set of features appealing. The First factor, one with a clear structure of four variables, each with loadings greater than .63, is primarily about the natural environment and open space, although “arts and cultural events” is also strongly correlated with this factor. A reasonable interpretation of the presence of the vehicles code, one that has primarily been coded as something that Tucsonans want to change, is that they would like to reduce reliance upon automobiles.² It seems less likely that in this context means cars provide ease of access, instead, cars (and their requirements) are seen as a threat to the environment.

² This structure is similar to that produced by a 57 variable analysis where vehicles loaded most strongly (.68) followed by traffic (.62), open space (.54), arts (.45), and natural environment (.41). Ease of access loaded most strongly (.31) on a factor defined primarily by transportation related variables.

Factor II: **The problem of transportation.** With the exception of the “biking” code, each of the variables that load strongly on this factor are things that respondents want to change. Public transportation and accessibility are most highly correlated with this factor, with loadings that exceed .75. The primary sentiment being expressed by this factor is a desire for an improvement in transportation focused on public transportation and the network of roads, including a cross-county highway. Functional layout (.46) and biking (.45) are quite close, and a review of the statements coded at these variables suggests that there is also strong support for increasing bikeways along major transportation routes.

Factor III: **Enjoying the region’s recreational amenities, with an emphasis on the great outdoors.** This factor differs from the first factor, which also contains a recreational component, is that the highest loadings are outdoor (.74) and recreational activities (.38), in addition to the more general category of “activities and events.” However, the fact that arts, music and cultural events loads on the first factor, suggests that this factor emphasizes those activities involving direct participation more than passive consumption.

Factor IV: **Prepare the kids for the future.** This also a relatively clean factor, with strong loadings (.76) from k-12 schools and “children, tens and future generations.” No other variables had loadings on this factor that exceeded .30. Both of these codes were identified primarily as things that respondents wanted to change, essentially to improve.³

Factor V: **A concern about sustainability.** The strongest loadings on this factor were “managing resources and sustainability (.76) and water (.73). Respondents agree that managing our water supply is the major concern that they share about sustainability. The inclusion of biking in this factor with its relatively modest loading (.35) invites inferences about biking as an alternative to automobiles that place more burdens on the environment. Explicit references to the water/energy nexus were actually quite rare.⁴

Factor VI: **We want to party downtown!** Respondents used “exciting and vibrant” (.72) as terms of art in describing what they wanted Tucson’s downtown (.65) to become. This interpretation is supported by the fact that the University of Arizona was also loaded on this factor (.32) as something that respondents tended to like.

Factor VII: **The development imperative.** This factor, defined on the basis of three codes, Economic engine (.71), Leadership and vision (.54), and the general category of Tucson’s Social and Cultural Environment (.45) reflects a concern about the nature of economic development to date. The highest loads are attributes of the region that respondents mostly want to change. Although many respondents identify the University as an economic engine, most of the comments lament the absence of similar engines, or

³ In the 57 variable solution, a similar factor also included high loadings from education (.689).

⁴ In the 57 variable solution, biking (.37) was still associated with these two variables along with a weak association with the desert (.21).

the failure of the region's leadership to build on the potential that the UA's activities represent.

Table II: Extended factors

8. Jobs	<u>Quality and Quantity, Functional Layout, Conservation resources</u>
9. Options	<u>Opportunity, Jobs, Recreation, Leadership</u>
10. Cultural value	<u>Culture and Ethnicity, Hispanic</u>
11. Healthy Lives	<u>Health, happiness and well being, Regional character</u>
12. Shopping	<u>Shopping opportunities, Businesses</u>

The five factors identified in Table II contributed an additional 17.6% of the total variance explained by the 38 variables in the analysis (~48%).

Factor VIII: **Jobs**. While this factor has a place in the table on the basis of its contribution to the variance explained in this set of variables, there is no obvious framework to support its identification. The strongest loading variable is the quality and quantity of jobs (.79)--something that respondents seek to change.⁵ It is unclear what it shares with functional layout (.48), beyond the absence of organizations that would employ college graduates and keep them here. The same is true of "conservation and resources," for which its identification as something people like is marginal at best.

Factor IX: **Options in the region**. The strongest load is opportunity (.73), a relatively expansive code in terms of its application. The sense is that recreational opportunities are in abundance, but employment opportunity depends upon improved political leadership and vision.

Factor X: **Culture and Ethnicity, with an emphasis on Latinos**. Both variables, solid "likes," load strongly on this factor (.72, .71), and no other substantial loads for these variables appear on other factors.⁶

Factor XI: **We're healthy and happy and proud of it**. Both components of this factor are solid "likes," reflecting a commonly shared belief that the weather and recreational activities support well being.⁷

⁵ The dictionary only coded 12 statements as referring to Quality or quantity of jobs, but it was, nevertheless correlated with a number of variables, including conservation and resources.

⁶ However, in the 57 variable solution, culture and ethnicity loads on several factors, and many other variables have lower level correlations with this factor (>2<4), including concerns about growth, planning, poverty, and diversity.

⁷ Health, happiness and well-being loads moderately on several factors in the 57 variable solution reflecting the many sources of well being, including the health care system, that were identified by our respondents.

Factor XII: **We like to shop.** Shopping is the primary code (.68) and its is primarily identified as a “like,” while Businesses, a general category, rated most often as something in need of a change. In a number of cases respondents decried the absence of particular kinds of stores/markets, such as those where one can purchase locally produced commodities, especially food.⁸

Cluster Analysis

A cluster analysis was performed using the 38 variables identified earlier in the factor analysis. This choice should facilitate a comparison between methods. Since the purpose of the analysis is to identify the types of values held (rather than identifying the types of people holding different values), hierarchical clustering was used. Table III presents the result of a requested 7-cluster solution.

As with the factor analysis, when variables are underlined, it suggests that respondents primarily identified those factors as things they wanted to change. This determination is not always negative, in that the desired change can be an increase of a good thing.

Cluster analysis supports visual representations of the relations between variables within clusters and between clusters. Dendrograms are like branching structures of trees and are readily interpretable and may be useful in exploring the relationships between clusters.

Table IV: Clusters based on 38 variables with high (>.6) communalities.

CL1	<u>Clean</u> , <u>Children</u> , <u>teens and future generations</u> , <u>Support</u> , <u>K-12 schools</u> ,
CL2	Opportunity, Social & Cultural Environment, <u>Crime and Safety</u> , Culture and ethnicity, Hispanic, latino, Activities and events, Recreation, hiking and exercise, <u>Outdoor activities</u> , <u>Leadership and vision</u> , <u>Economic engine</u> ,
CL3	Exciting and Vibrant, Arts music, cultural events, Natural environment, Open space, <u>Jobs</u> , <u>Downtown</u> , <u>Vehicles</u>
CL4	Health, happiness and well-being, Regional character,
CL5	Friendly, small town feel, <u>Economic environment</u> ,
CL6	Weather and climate
CL7	<u>Managing resources and sustainability</u> , <u>water</u> , <u>Conservation and resources</u> , <u>Governmental units</u> , U of AZ, <u>Quality and quantity (jobs)</u> , <u>Businesses</u> , <u>Functional layout</u> , shopping opportunities, <u>Accessibility and transportation</u> , <u>Public Transit</u> , Biking

Underlined: Change at least 2 times greater than Like codes for that variable

CL1: **Save the kids.** All the variables in this cluster are primarily Change codes. Support for children and their education are key, and the concerns about Clean as a feature of

⁸ In the 57 variable analysis, “eating out,” food, and diversity loaded on the same factor as shopping.

their environment can easily be seen as an expression of concern about where the kids will be prepared for the future.

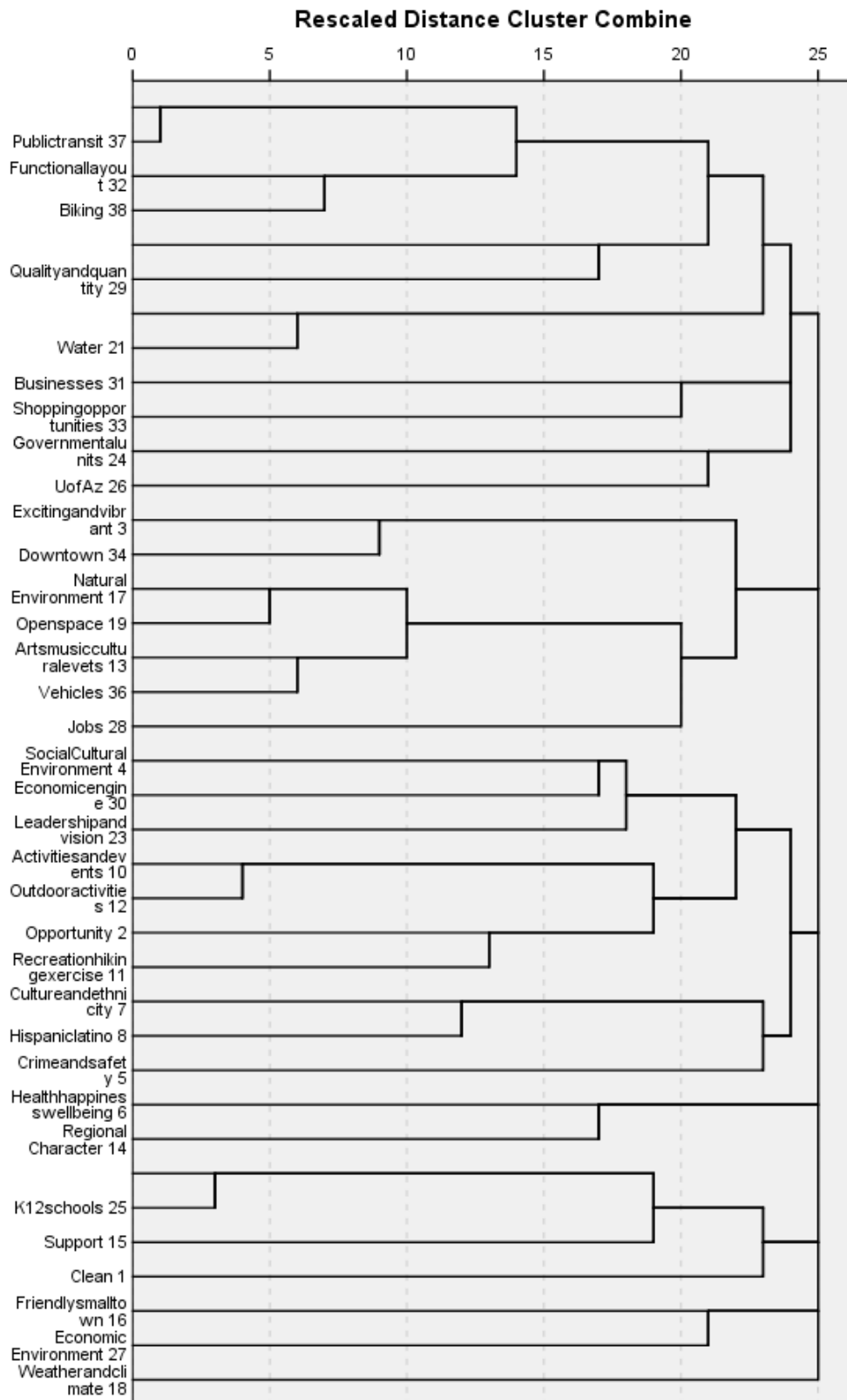
CL2: The Good Life in Tucson. This cluster is something of a laundry list of things that people like about Tucson. At the same time, there are three things that they believe we have to change so as to avoid placing those good things at risk. Reducing crime and improving safety, as well as the identification and support of economic engines like the University of Arizona will depend upon attracting leaders at the local and regional level with a vision.

CL3: The Good Life for the younger generation. This cluster appears to be a reflection of the interests of younger respondents who not only want to improve the downtown area to make it more exciting and vibrant, with an assortment of arts, music and cultural events, but they also want to enjoy the natural environment and the open spaces that make the region unique. They believe that the region's economy will need to generate the kinds of jobs that can keep them here, while protecting the environment from the impact of automobiles.

CL4-6: The Character of the Region. While a different core dimension defines each cluster, the Character of the Region is defined by its weather and climate and its friendly small town feel, both of which contribute to the overall well-being of its residents. How the region moves to improve its economic environment will also determine whether that character change in ways that its residents would choose.

CL7: The Work we have to do. The variables in the seventh cluster identify the areas in which the Region will have to focus its energies in order to maintain the quality of life that its residents indicate that they like. The University of Arizona appears to be universally loved by its community, and it appears to be held up as a model for the way that other institutions ought to work together to ensure the region's future. The fact that Accessibility and transportation, Functional Layout, and Public Transit (all Change coded variables) appear in this factor emphasizes the importance that residents place on transportation, including infrastructural developments that are supportive of alternatives to automobiles (bikes and public transit).

Dendrogram using Average Linkage (Between Groups)

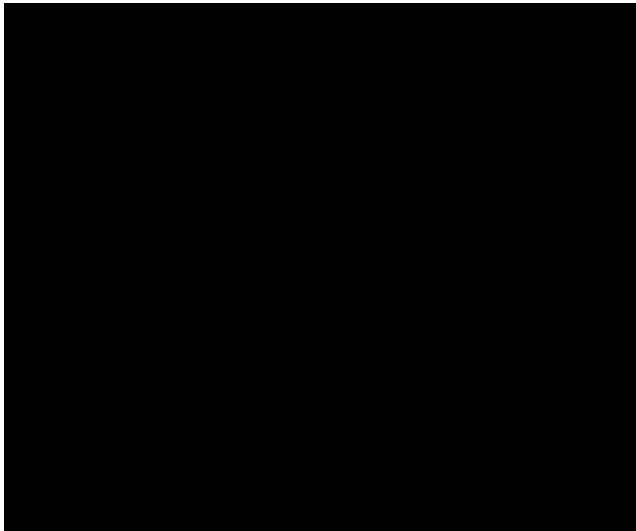


The Dendrogram: Representing the Structural Relations between 38 Core Variables

The dendrogram uses a tree and branch approach to display the relationship between the variables that have been assigned to clusters by the hierarchical method used in this analysis. Although there are statistical measures providing a more precise indication of the “linkage distances” between the seven clusters, the graphic does suggest which variables were most similar. So, although Functional Layout, Public transit, and Biking are in the same cluster as the University of Arizona, they are also somewhat different. Similarly, the association between exciting and vibrant and downtown is clear, but the link, probably based on their recreational dimensions, also places Arts, music and cultural events next to Open space and the Natural environment. A different pattern would have been revealed had the analysis been constrained to a 5-cluster solution. The same internal distinctions can be observed between Clean, Support and K-12 schools (the Children label was too long and was not printed).

Identifying Groups

It is clear from the variety in the responses that have formed the basis of our analysis that there are several different groups of people within the community that might be defined in terms of the values and concerns they share. Cluster analysis represents one approach to identifying those groups. Using a quick cluster method (because of the large number of cases), and specifying the number of groups as six, a successful initial solution was generated.



Examining the cluster centers (means) allow for the identification of those variables that are the most extreme (above or below the sample mean), and using those variables to define the people within the cluster.

Cluster 2 is the largest group (628 respondents). The most extreme, and therefore characteristic variables, in terms of standard deviation from the mean are Weather and climate (1.1) and Functional layout (.5) followed by Friendly, small town (.4) and Activities and events (.4). **These are the people that love the climate/weather in the region.**

Cluster 3 is the next largest group (204 respondents). This group is characterized by its attention to Arts, music and cultural events (1.6) and Downtown (1.4), followed by Functional layout (.7), Friendly, small town feel (.6), Weather and climate (.6), Activities and events (.5), and Outdoor activities (.5). **This is the group that is concerned about the downtown as a venue for art, music and culture.**

Cluster 5, with 22 members, is characterized primarily by its concern about Functional layout (3.0), Public transit (3.0), Biking (2.2) and Accessibility and transportation (1.1). It might be appropriate to call this the **Alternative Transportation Group**.

Although there are only 14 people in Cluster 6, their concerns about Functional Layout (6.9), Downtown (2.9), Biking (1.5) and Public Transit (1.0) are worth noting. They are just slightly different from the 12 people in Cluster 4, for whom Biking (5.1) dominates their identity. Because the mean on Functional Layout for the people in this cluster is so high, we might call them the **More Bike Lanes Downtown Group**.

Merged Datasets (1,172 respondents)

In early February, an additional 830 surveys were provided to the data analysis team. Because there is no hand coding of these surveys, the same criterion for the initial selection of variables was used to select the 70 variables used in the initial factor analysis. However, because of the possibility that the relations between variables may have changed, the communalities in the merged set were used to select those with a greater impact on analysis (>0.6) that produced a much reduced list of 21 variables.

Cluster Analysis

As a basis for an interpretation of the 13 themes identified by the data analysis team, hierarchical clustering was constrained to produce 13 clusters using the 70 variables selected initially on the basis of code frequency.

CL1 Looking Good	Clean, Beauty, Views, Mountains, Air quality
CL2 Mexican Heritage	History, Food, Culture and ethnicity, Hispanic, Businesses
CL3 Outdoor activity	Opportunity, Activities and events, Recreation/Hiking/Exercise, Outdoor activities, Local/state parks, sports, Uof A
CL4 Indoor activity	Exciting and vibrant, Groups, Governmental units, Economic engine, Downtown
CL5 Our special character is our diversity	Ease of access, Diversity, Social/Cultural environment, Housing, Arts/Music/Cultural events, Identity uniqueness, Community, Natural environment, Plant/animal life, Open space, Managing resources/sustainability, Water, Conservation and resources, Desert, Growth, Built environment, Mixed use-density and sprawl
CL6 Getting around town	Crime and safety , Nearby attractions, Functional layout , Areas of the region, Accessibility and Transportation, Vehicles, Traffic and ease of travel, Public transit, Biking
CL7 The Good life	Quality of life, Health/Happiness/Well-being, Regional character,
CL8 Prepare our kids for the future	Families, Children/Teens/Future generations, Support, Education, K-12 schools, Jobs, Quality and quantity
CL9 Small town feel	Size of region, Friendly small town feel, Connecting/interacting, Shopping
CL10 Governance	Openmindedness and creativity, Governance and politics, Policy/planning/regulation, Leadership and vision
CL11 Divided we stand	Divisive/Polarized
CL12 Climate	Weather and climate
CL13 Economics	Economic environment, Cost/value/investment

Codes in **Bold** (Change is also coded at least twice as often as Like in initial analysis).

Interpreting the clusters

With the exception of CL5, most of the clusters are readily interpretable on the basis of our familiarity with the statements made by respondents. Additional clarity is provided by the characterization of the code as either being identified primarily by respondents as something they would most like to change about the region. (While there is no obvious criterion for making such a determination, the fact that the code was identified at least twice as often as it was identified as something they liked seems compelling.)

The following then are initial characterizations of the 13 clusters.

CL1: The Region is looking good, and we need to keep it that way. The emphasis in this cluster is on the visual elements of the natural and built environment. (Even the EPA emphasizes the impact of air quality on our ability to take in the wonders of nature in this region). Many respondents expressed concern about the manner in which residents and the city maintained the appearance of the roads and their yards. This is something they clearly want to see improved.

CL2: We enjoy the benefits of the region's Mexican heritage in many ways, including our food. The culture and ethnicity code is very closely linked to the Hispanic and Latino code, and positive statements about the values derived from our recent and ancient histories are reflected in our restaurants, although other businesses do not fare as well.

CL3: We enjoy the great outdoors for the opportunities it provides for recreational activities. Although recreational activities include the more passive consumption of sports, especially those provided by the University, the dominant theme within this cluster is related to individual and group activities like hiking.

CL4: We want our region to be exciting and vibrant, and we need our government to do more to move our downtown closer to that ideal by facilitating its transformation into an economic engine. Making the downtown area more exciting and vibrant requires investment in the infrastructure, including facilities that attract investment and the interests of a variety of groups, including tourists.

CL5: Tucson is a special place, and we have to work to ensure its survival into the future. This is a large cluster that is defined by a number of defining features that make for a unique identity. This identity is a special blend of its natural environment as well as its diversity in the art, music, and cultural realm. Respondents feel that this special regional character is threatened by growth, sprawl, and incompetent design of the built environment. Part of the solution is seen in efforts toward sustainability that pay particular attention to the severe limits on the supply of water.

CL6: Getting around town is a problem, and we have to address it. This cluster is dominated by codes dealing with transportation, and nearly all are identified as things that people generally want to change. Biking is an important exception, and many of the comments made about biking and transportation are comments about the need to provide more safe pathways for biking for recreation as well as for transportation. Part of the concern about vehicles (primarily automobiles) is about safety for bikers and pedestrians. This is somewhat distinct from concerns about pollution, and traffic congestion, but those are also a part of the public's concern about our problems with transportation. Many see improving public transit as part of the solution.

CL7: The Good Life in Tucson is part of its special character. Health, happiness and well-being is at the center of respondents comments about what makes the quality of life in the region so special. The availability of good health care, as well as the variety of

activities that enable the management of stress (including the weather), all contribute to the good life we enjoy in the region.

CL8: Our young people are our future, and we have to invest in their education.

People in Tucson are attached to their families and would like to keep those families close. This closeness is threatened by the absence of the number and variety of jobs that could keep their children here after they graduate. At the same time, they express a concern that our primary schools are not able to prepare our youngsters for the jobs of the future. They suggest that we have to increase our support for the schools and for the development of our youth.

CL9: Whatever our size, we still have a small town feel, and we like it that way. A special part of the character of our region is the ease with which people can meet and connect with people of common interest. Although there is criticism of the number of strip malls in the region, variety in shopping opportunities, including locally owned stores and farmers' markets are seen as an aid to meeting others. None of the codes in this cluster are identified as things we need to change.

CL10: The problem with governing the region includes a shortage of leaders with vision. Governance includes policy and planning, and there is a general sense that we don't do it very well here. Although people appreciate the benefits of openmindedness and creativity, it seems to be in short supply among those who have stepped forward to lead our local, regional, and state government. There are also comments about the general public and the difficulties they face in coming together around critical issues, but that aspect of our problem with governance is captured in its own cluster.

CL 11: Sometimes we just can't get along. Although there is a general sense that we have a friendly small town feel, and that it is relatively easy to connect and interact with others of common purpose, there is also strong sense that there are ideological divides that make it difficult for us to come to agreement where it matters. There is an apparent tendency for us to be divisive, to sort ourselves into opposing camps, and resist efforts to find the common ground.

CL12: We love the weather and the climate. There seems to be little disagreement about the region's climate: it is a great plus. Although there are a few complaints about the summer heat, and still fewer warnings about climate change, the overall sense is that our climate is ideal.

CL13: It's basically economic; we have to invest in our future. While the current recession is no doubt a major influence on the comments we've received about the economic environment, there is a strong thread of concern about the need for us to make the kinds of investment in the development of capacity and capability that would ensure a sustainable future.

Factor analysis

A principal components factor analysis based on the same 70 variables extracted 27 factors that explained 56.4% of their common variance. The first thirteen factors used to support this analysis explained 34% of the variance, but would be difficult to interpret because varimax rotation failed to converge on a solution.

A second analysis based on the communalities (> 0.6) identified in the initial solution was limited to a smaller set of 21 variables that produced 9 reasonably identifiable factors. Only those variables with loadings greater than .30 are included in the description.

F1 Transportation	Accessibility and Transportation, Public Transit, Vehicles
F2 Outdoor Activities	Outdoor activities, Activities and events, Recreation/hiking/exercise
F3 Excitement	Exciting and vibrant, Downtown , Natural environment
F4 UA sports	Sports, U of A, Children/teens/future generations
F5 Come together	Quality of life, Opportunity, Connecting and interacting
F6 Families	Natural environment, Families, Vehicles , Children/teens/future generations
F7 See you at the mall	Shopping, Friendly small town feel, (-Hispanic)
F8 Outdoor activities	Opportunity, Mountains, Recreation/Hiking/exercise
F9 The right jobs	Quality and quantity , Hispanic

Bold = change

Despite being based on a smaller number of variables, and a fundamentally different interpretative perspective, the fact that both the cluster and factor analysis rely on correlations helps to explain the great similarity between these groupings.

F1: **Public versus private transportation.** For example, there is a common concern with transportation in both cases, although the underlying tension in F1 is the relationship between private cars and public transportation--both of which are perceived to be in need of change. It seems doubtful that most of the people complaining about how long it takes to get from the east of the city to the freeway, or activities in the north west are actually envisioning alternatives to using their cars. Many want limited access highways to be

built. Still, the identification of high-speed rail or other forms of public transportation as an alternative to the automobile was quite common.

F2: Outdoor activities as recreation. Whereas the cluster analysis includes outdoor recreation with passive consumption of sports (CL3), these interests are clearly distinguished in the factor analysis.

F3: Exciting things to do. The identification of both downtown and the natural environment as major loadings this factor distinguishes it from the developmental (economic) character of the related cluster (CL4). This is simply about the desire to have fun.

F4: The University of Arizona. The University is reconized as a central feature in our lives, both the education our children, and a source of pride in its athletic teams.

F5: Coming together for the common good. These three codes have similar loadings on this factor. The opportunities for coming together in pursuit of common goals help to guarantee a quality of life we find attractive.

F6: Families are in easy reach of each other. Families (including children) loads strongly on this factor and shapes its interpretation. Vehicles, which usually refers to cars, is identified as something that respondents seek to change, perhaps because of their impact on the natural environment.

F7: Shopping is easy. Shopping opportunities largely define this factor, and a reasonable interpretation of the presence of the “friendly small town feel” code in here, and in a similarly defined cluster (CL9) supports its interpretation as enjoyable. The negative sign on the Hispanic code, along with the presence of the change orientation on the Businesses code in a similar cluster (CL2) raises questions about how narrow the scope of the community’s appreciation of Latino history and culture might actually be. Shopping is treated separately from eating out, or the restaurant business, and this may explain the relative absence of links with shopping as an activity.

F8: Hiking in the mountains is special. The presence of the mountains and recreation as the primary loads on this factor help to distinguish it from F2, which features other outdoor activities (rather than opportunities) as the primary loading.

F9: The quality and quantity of jobs in this market is a problem. With quality and quantity revealing the highest loading in this analysis (.841), there is little question about what this factor is about. The basis for the inclusion of the Hispanic code (.356) is far less clear.