

## Community Sandbox – Chip Game (Growth Challenge Game) / Comprehensive Planning Tool

### Tool Introduction:

The Chip Game is a physical planning exercise played by local residence, elected officials and volunteer planning commissioners. Land use type icons are applied to a map that represents the town's planning area and seeks to allocate the number of jobs and homes projected for a future planning horizon, often 20 to 30 years into the future.

The objective is to site homes and jobs in a fashion that is consistent with the stated goals and objectives for future development. This process produces a large number of alternative futures that can be evaluated quickly, and the lessons applied to subsequent draft plans for the community.

The Chip Palette (legend) includes residential types from low to high density, as well as a range of job types and public facilities. The consumptive implications of using all low density versus high density becomes very apparent to 'Players', and many citizens begin to realize the value of compact development for the very first time playing this game.

Local citizens are clearly the most knowledgeable group available concerning local circumstances. This game seeks to capture that knowledge and use it to create refined land use suggestions that have the citizen support needed to be adopted and implemented.

This chip game exercise is usually public meeting number two, as specific input is needed from the initial public meeting to set the stage for this exercise. Input regarding development goals and objectives are needed, as well as an expression of where sensitive lands are located and where efficient growth can be accommodated. This inputs provide critical structure for the chip game exercise as 'players' seek to place future growth in locations that satisfy as many community desires as possible.

An evaluation of the many chip games after this gaming charrette using CommunityViz begins to define the lessons learned. CommunityViz is a scenario based impact analysis tool for ArcGIS that uses custom defined 'indicators' to measure the performance of each chip game alternative to stated planning goals and objectives. Each community defines their own goals, but often include measureable elements such as walkability, access to recreation or public lands, job/housing balance, response times for emergency services, level of service impacts, fiscal impacts, transportation impacts, etc.

Public Meeting number three reviews the results of the Chip Game exercise, outlines the performance of each chip game to community goals and objectives, and presents draft land use plans that reflect predominant chip game inputs. Ultimately citizens make choices about which alternative, parts of alternatives, discreet land use concepts and implementation strategies are best for their community.

CASE STUDY SUMMARY:

Grand Junction / Grand Valley Comprehensive Plan  
 2010 APA Award for Excellence, Colorado  
 Best Public Participation, 2010 Colorado Chapter APA

Grand Junction and surrounding area has enjoyed many decades of continual growth and prosperity. Jurisdictional differences however have created dramatically different land use patterns across the valley, now these choices are having significant consequences.

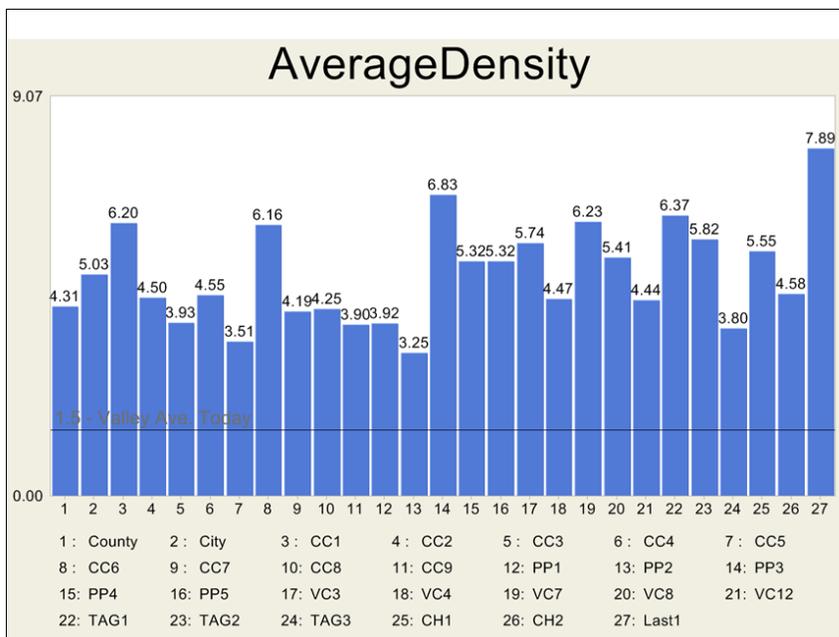
Initially the study area was intended to be limited to City of Grand Junction City boundaries, yet preliminary site visits suggested the solution would need to extend to outside those limits. The consultant team convinced the Grand Junction staff and elected officials to include the Mesa County Commissioners in a Chip Game with that influential group to begin to recognize issues that may need to be resolved. That exercise produced a dialog between previously contentious groups and it was concluded that a Valley Plan was needed to address the dilemma of siting the projected number of future homes and jobs for that region.

It became apparent that higher density would be the only way the community could absorb the demand future citizen were likely to place on the Valley and discussions of extending sewer and water into strategic locations to accommodate compact development was started that afternoon.

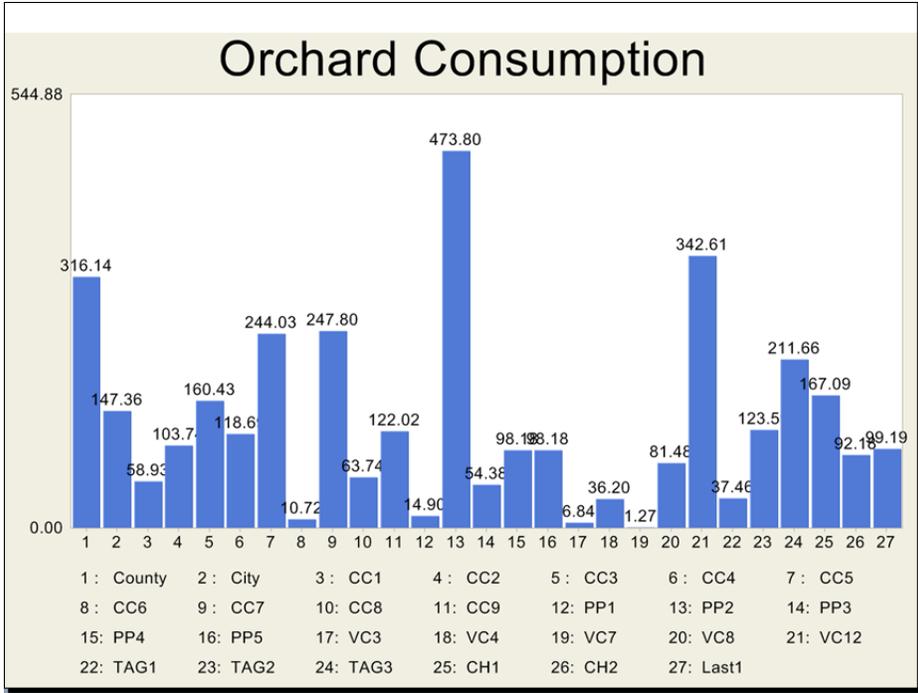
Public Meeting number two engaged local citizens in six locations around the valley with a chip game to capture their perspective on appropriate location and character of future growth. A total of 27 chip games were played and the summary was conducted within CommunityViz, a scenario based impact analysis extension to ArcGIS created by the Orton Family Foundation. The summary revealed many findings that were used to create a concept plan for future land use that had high levels of support.

For Example:

Compact Development was echoed by citizens that played the chip game as evidenced by the following summary charts for each of the 27 games:

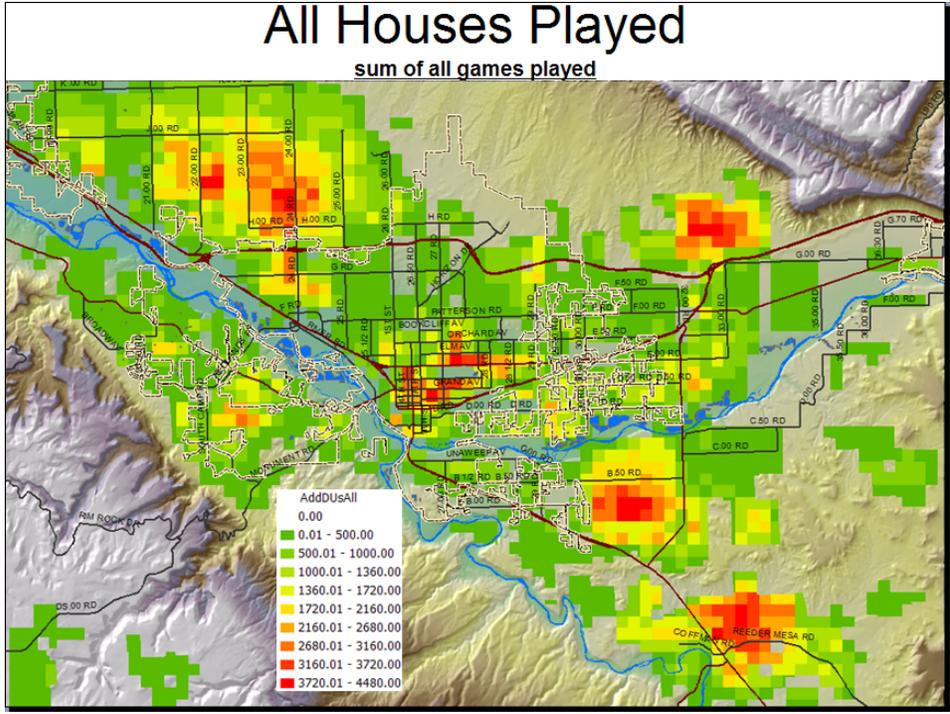


The existing average density in the Grand Valley was 1.5 homes per acre, while every game played significantly increased that average for sited future homes as seen in the adjacent chart.



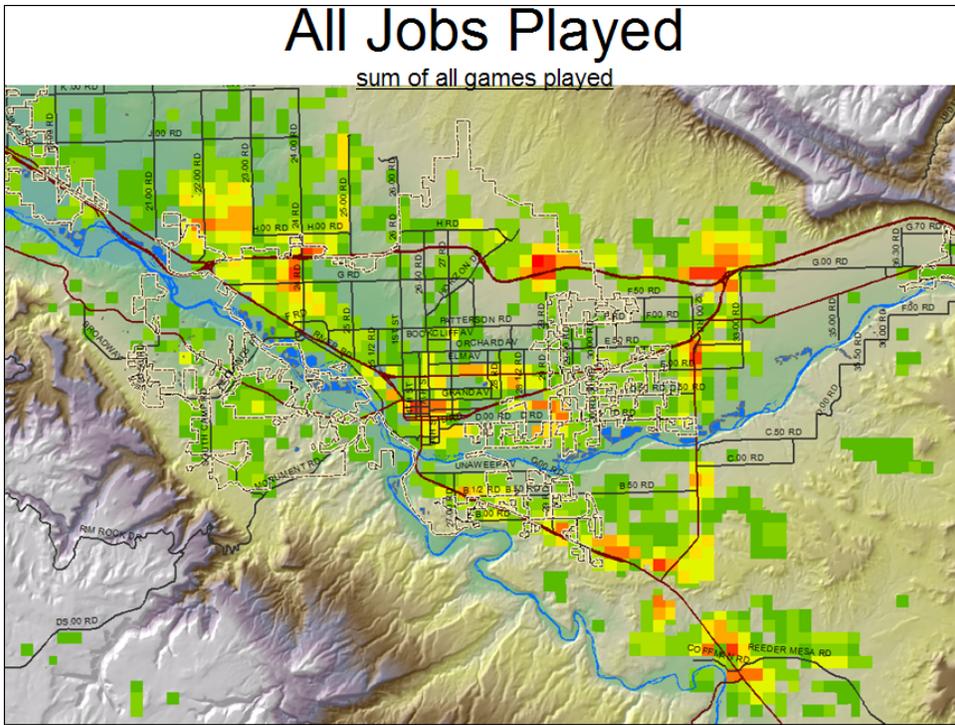
Stated desires such as preservation of orchard lands that have made the Grand Valley famous were supported by this analysis of acres of orchards consumed, where most games used only very small quantities of these lands.

An indication of where the most appropriate locations for future housing was prepared by summing all the homes sited on all 27 games. This produces a pattern (intensity map) that makes it quite clear where local citizens believe future residential areas should be located. See following diagram of preferred housing locations:



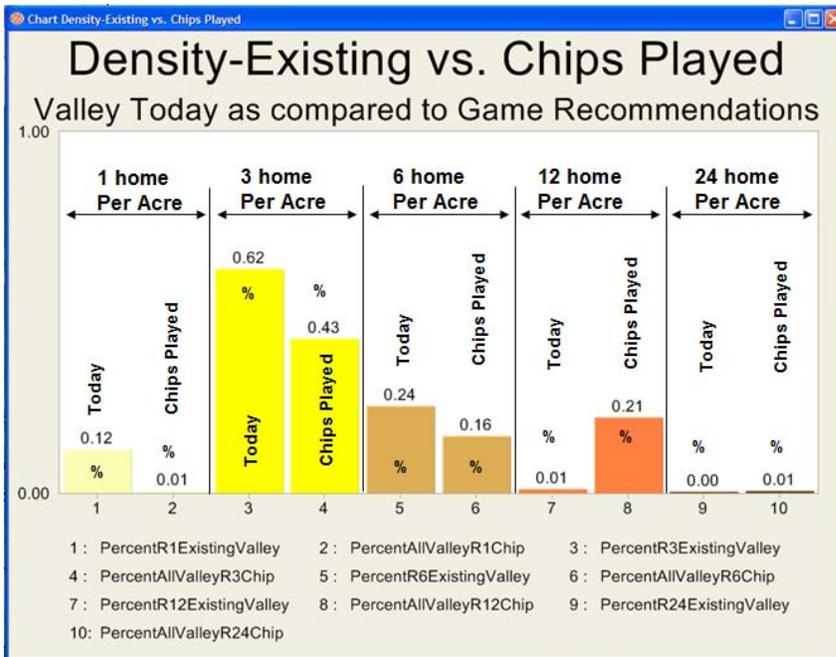
Dark red areas are the 'Hot Spots' and depict areas where most homes were placed, while green are areas that had few homes or none sited.

Future Jobs placed were summarized in a similar fashion and that diagram follows:



Again, red areas are locations where most jobs were located, while green areas depict where jobs were not suggested.

The character of future homes suggested by the chip game were compared to the types of homes that now depict existing development and clearly suggests that citizens believe that a change in land use patterns is needed.



This chart depicts the types of housing that was played compared to what exists today. For example today only 1% of the housing types are 12 units per acre, while chips played in the future for that same housing type were over 21%.

Land Use Concepts that emerged from the chip game include the following ideas, all of which were extracted from findings from public input during the chip game sessions:

Future Land Use Concepts:

- Transportation connectivity
- Shopping closer to where people live
- Respect sensitive lands, (river, habitat, etc.)
- Efficient future growth (dollars)
- A Grand Green System (parks, open space, trails)
- Improve downtown, grow downtown
- Affordable housing
- More mixed use and housing variety
- System of connected centers
- More compact growth, less sprawl
- Realize infill and redevelopment potential

These concepts were recognized by citizen participants and supported throughout the planning process and into the final land use plan for the future.

This quote was provided by Anne Lane, AICP, APA Colorado Awards Committee Chair:

On behalf of the Awards Committee, I am pleased to inform you that your application for the "*City of Grand Junction, Grand Junction Comprehensive Plan*" was selected as a 2010 APA Colorado Excellence Award in the Category of Outstanding Planning Project! The project was chosen in the comprehensive plan category of Outstanding Planning Project and specifically for the top award level of Excellence because the plan was an exemplary example of a successful public process that resolved contentious issues through joint meetings and pointed the City in the direction of a sustainable and positive future.

## Explore Tool:

The Chip Game is a custom designed exercise that is different for every community where it has been played. Variations we have created include many Community and County wide games for Comprehensive Planning purposes, but purely recreational applications have been developed and County 'Transfer of Development Rights' games have been used. Thus it is difficult to reveal a template that applies to all instances, however there are some commonalities that apply to most games. These commonalities are listed here:

- 1) Local Growth Rate – as we need to predict how many homes and jobs might be likely with the Planning Horizon of each planning effort.
- 2) Land Use Icons 'the chips', need to be at least ½ inch or larger to avoid frustrating players. A Grid on the Game Board (community map) needs to fit those chips.
- 3) The Map size (game board) is frequently limited to the size of table available in meeting rooms or about 3' wide by as long as is needed.
- 4) The Chip Set (pallet of uses that can be played) needs to include predominate existing uses as well as some new uses that might be considered part of the solution. For example: larger lot sizes, smaller lot sizes, mixed use, etc.
- 5) Game boards should include opportunities and constraints to assist players with directing growth to appropriate locations. Examples of Opportunities might be vacant or under utilized lands and constraints often include steep areas, flood plains, and wetlands.
- 6) Playing Chips are often provided in quantities that reflect what exists today, so players need to get chips from the bank (additional chips of all types) to trade for uses that vary from that historic trend. In this way players become conscious of the kind of changes that need to be institutionalized for their futures to be realized.
- 7) Objectives and Goals need to be stated and demonstrated upfront so land use patterns and mix of uses can be played in a fashion that support those desires. For example; if walkability is desired, then specific types of destinations need to be co-located with homes and jobs, i.e. parks, schools, housing variety and convenient commercial.

References and further Reading:

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Community Visualization: The Key to Democratic Urban Planning

Steven B. Mullen

<http://www.geoplace.com/ME2/dirmod.asp?sid=&nm=&type=MultiPublishing&mod=PublishingTitles&mid=13B2F0D0AFA04476A2ACC02ED28A405F&tier=4&id=7EB783E1901442B99902543227A31746>

Casper Comprehensive Plan – Chip Game Summarization Slide show:

[http://www.2020visionseeyourfuture.com/documents/meeting-presentation\\_100322.pdf](http://www.2020visionseeyourfuture.com/documents/meeting-presentation_100322.pdf)

Grand Junction / Grand Valley Comprehensive Plan – Process Summary (including chip game results)

<http://www.gjcity.org/citydeptwebpages/communitydevelopment/DevelopmentServices/ComPlan/CompPlan.htm>

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