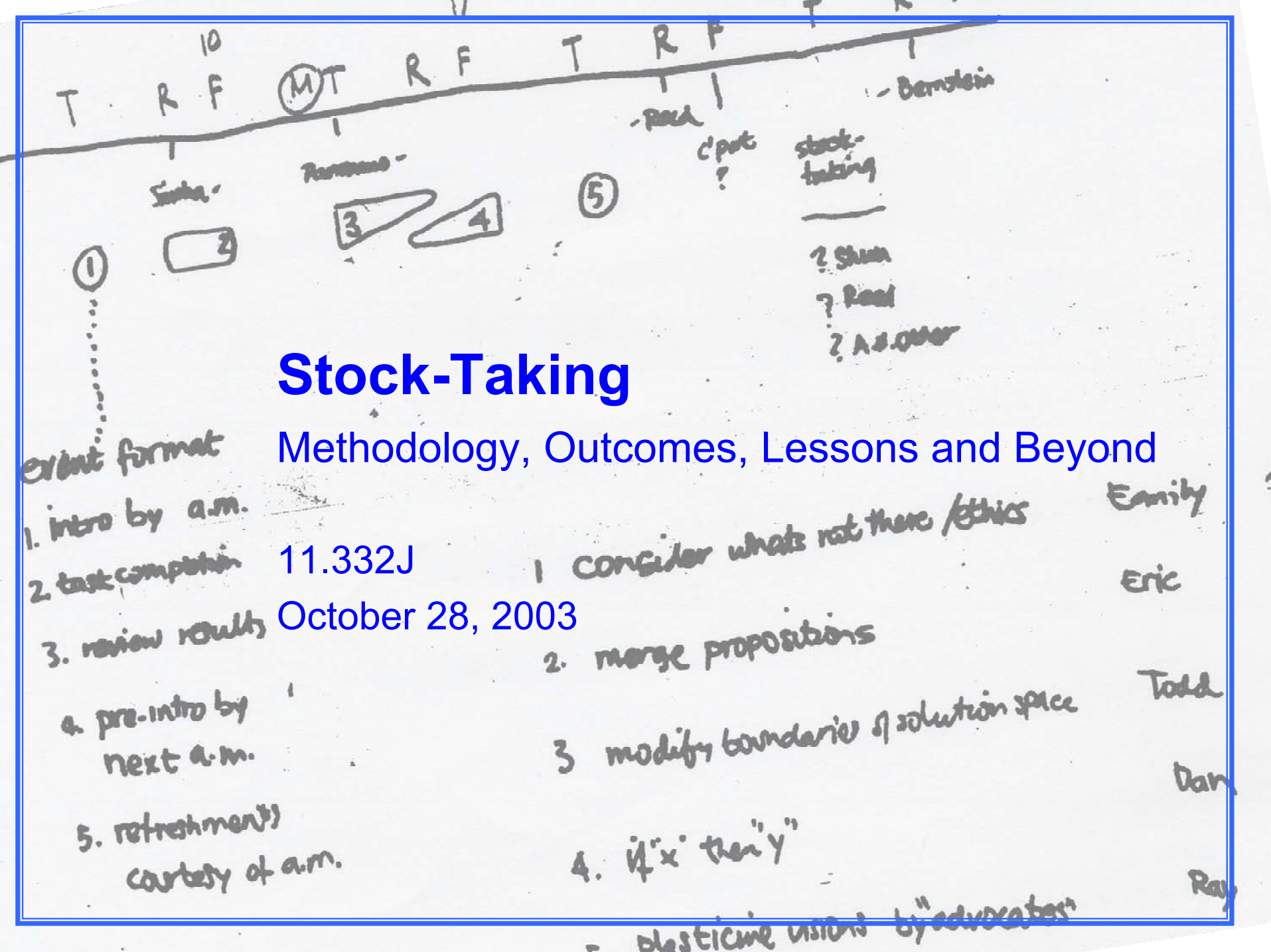


Stock-Taking

Methodology, Outcomes, Lessons and Beyond

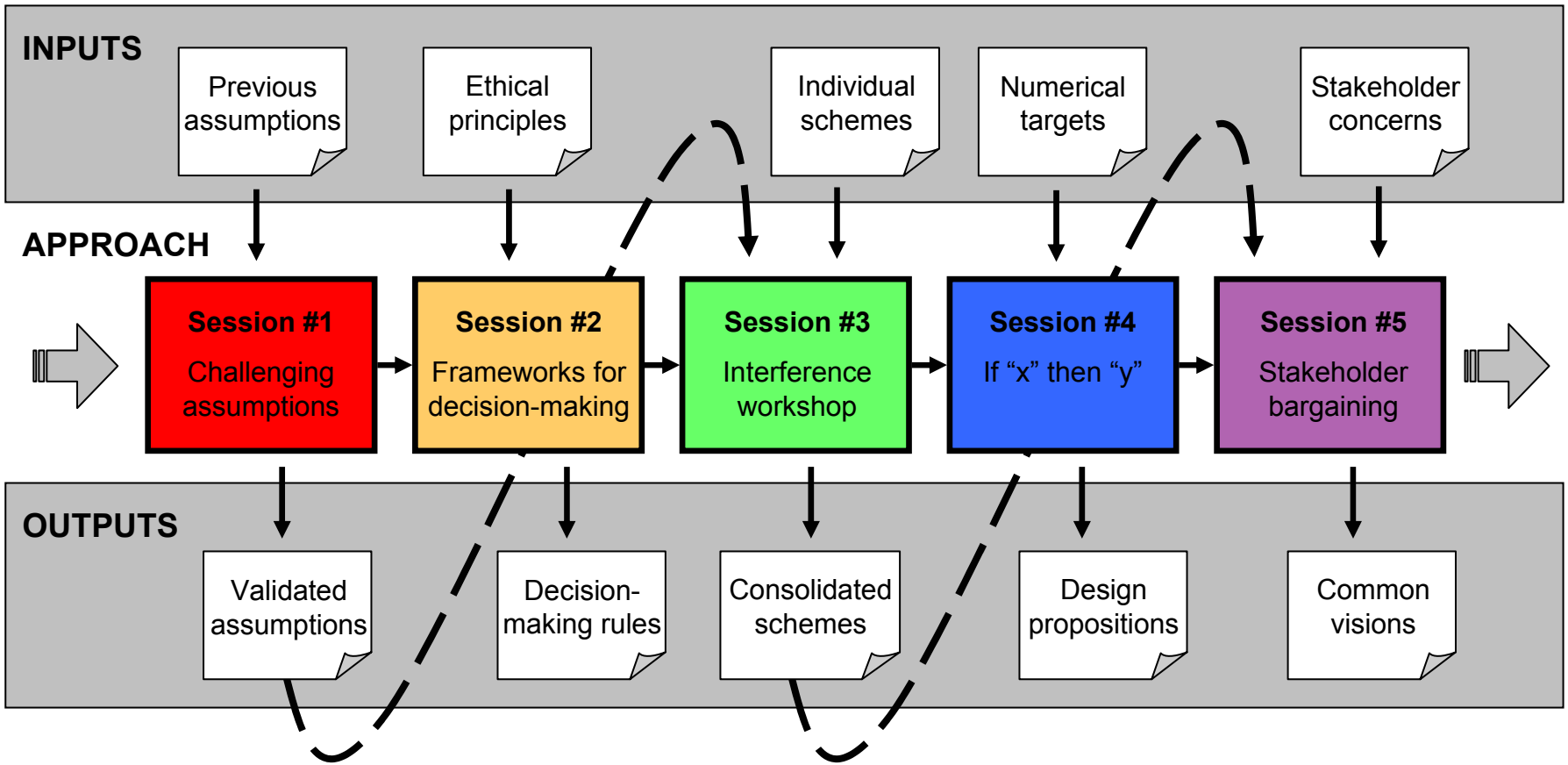
11.332J

October 28, 2003

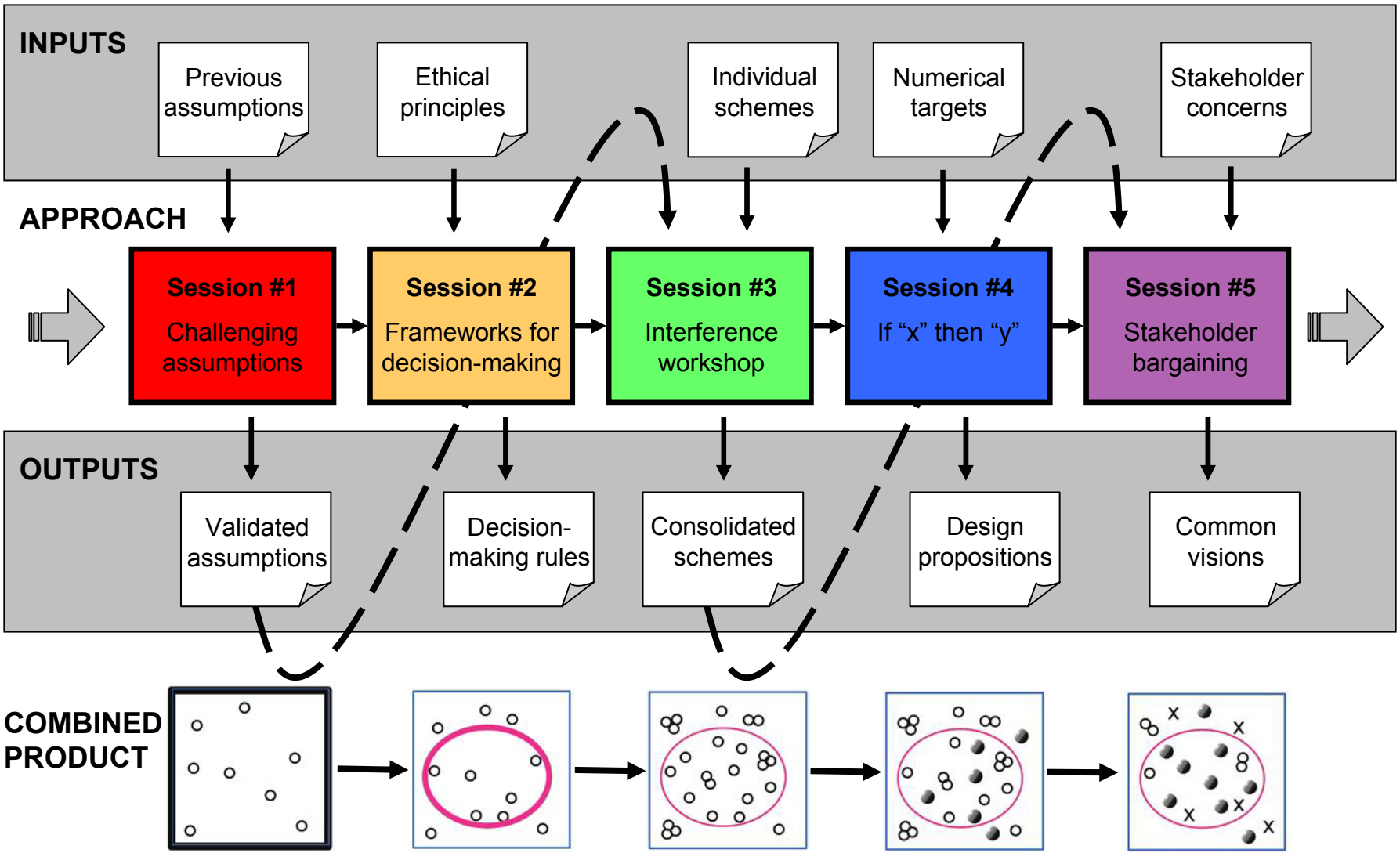
Presentation outline

- Overall approach
- Combined product
- Summary of individual approaches
- Lessons learned
  - Session mechanics
  - Urban design process
  - Site-specific
- Issues to resolve

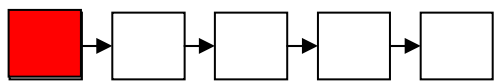
Overall approach



Combined product

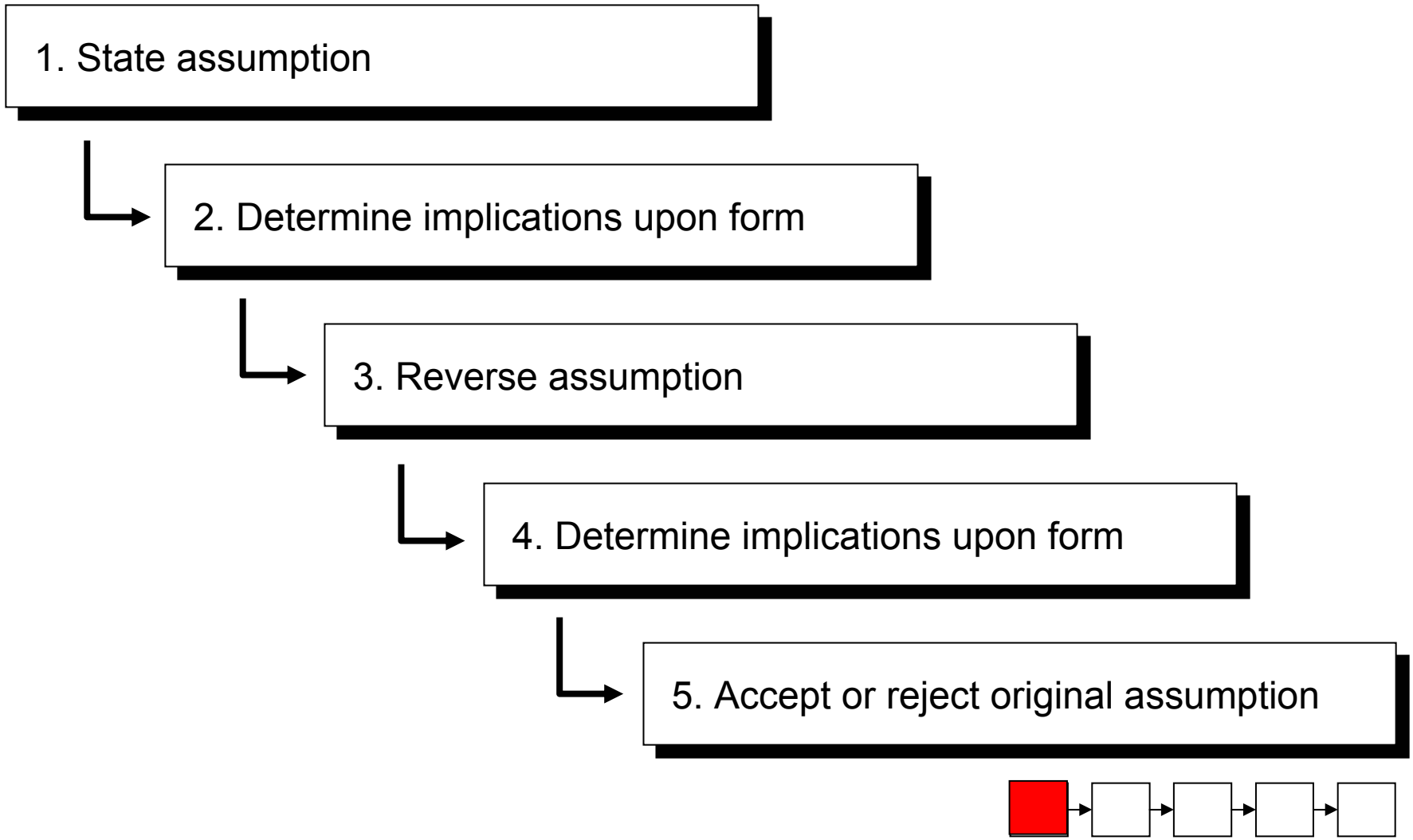


Approach 1: challenging assumptions



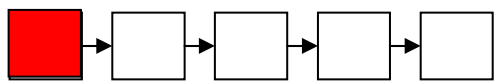
Approach 1: challenging assumptions

Process



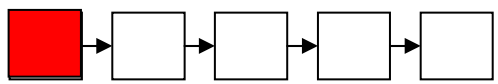
Approach 1: challenging assumptions
Sample outcomes

Assumption	MIT's undergraduate student population will remain at roughly its current levels
Implications	• Amount of undergrad housing is definable and stable • Could be shifted if FSILGs change • Even with no change, good students will come to MIT
Counter-assumption	The size of MIT's undergrad population will change substantially
Implications	• Less demand for undergrad housing • Possibly empty buildings • Less faculty • Less TAs • Less tuition $
Resolution	Assumption holds



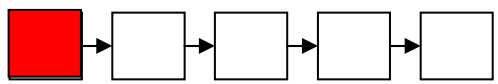
Approach 1: challenging assumptions
Sample outcomes

Assumption	To meet its future athletic needs, MIT will require an amount of playing fields equal to or greater than its current facilities
Implications	•Any development on current fields will spur a need for new fields •Potential for shared facilities (BU, neighborhood, etc.) •Pressure/tendency for MIT to build out, rather than in •Potential to use current fields more intensively •Difficult to connect ends of campus or build community
Counter-assumption	Could get by with less fields
Implications	•Loss of large space and its versatility •Greater potential to connect campus and build community •More room for development for MIT (chance to densify)
Resolution	Challenge assumption

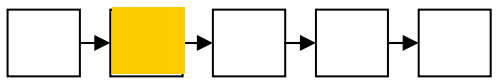


Approach 1: challenging assumptions
Sample outcomes

Assumption	The urban ring will come to Cambridge by 2020
Implications	•Retail activity becomes much more economically feasible (near Ft. Washington) •Densities near Ft. Washington increase •Land values go up -> zoning changes •Stealing business from Central Sq. (?) through competitive alternative •New stakeholder group: region/commuters
Counter-assumption	No urban ring
Implications	•If MIT expands, it will have to provide services (recreation, dining, etc.) •Increased demand for parking will lead to increases in congestion •Difficulty to get enough density to support much retail
Resolution	Develop interventions that will work with or without urban ring



Approach 2: frameworks for decision-making



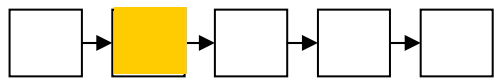
Approach 2: goals

- ***Establishing a set of frameworks (sets of rules or guidelines) to guide design options and land use proposals***
- ***Exploring how broader strategic and ethical concerns could take a central role in the formation of local strategies***

Stakeholder:

+ community
+ place
+ city metabolism
+ environment/sustainability

- ***Finding a way to turn abstract goals into spatially specific strategies***
- ***Identifying areas where further research is needed to back up positions or test frameworks***



Approach 2: process

identify issues requiring strategic steer

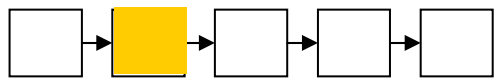
(where concerns of local stakeholders or planned development pattern appears to conflict with broader concerns for public benefit, sustainability or city metabolism)

> ***establish possible raw positions for each issue***

> ***test these positions against ethical principles and take forward most favourable position***

> ***develop and refine a strategy framework for each issue, expressed as a clear set of guidelines - where, how much, under what circumstance***

> ***map out strategy frameworks in real space***



identify issues requiring strategic steer

establish possible raw positions

test positions

develop and refine strategy framework

map out strategy frameworks in real space

Housing density
- raise average housing density
- lower average housing density
- maintain same average housing density

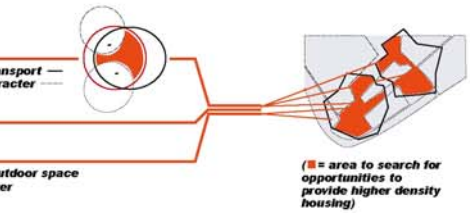
Affordable housing
- maintain standard proportion of affordable housing
- double current standard proportion of affordable housing

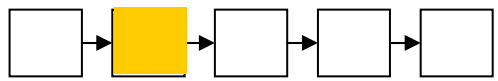
Parking
- halve current parking allowances
- maintain current parking allowances
- double current parking allowances

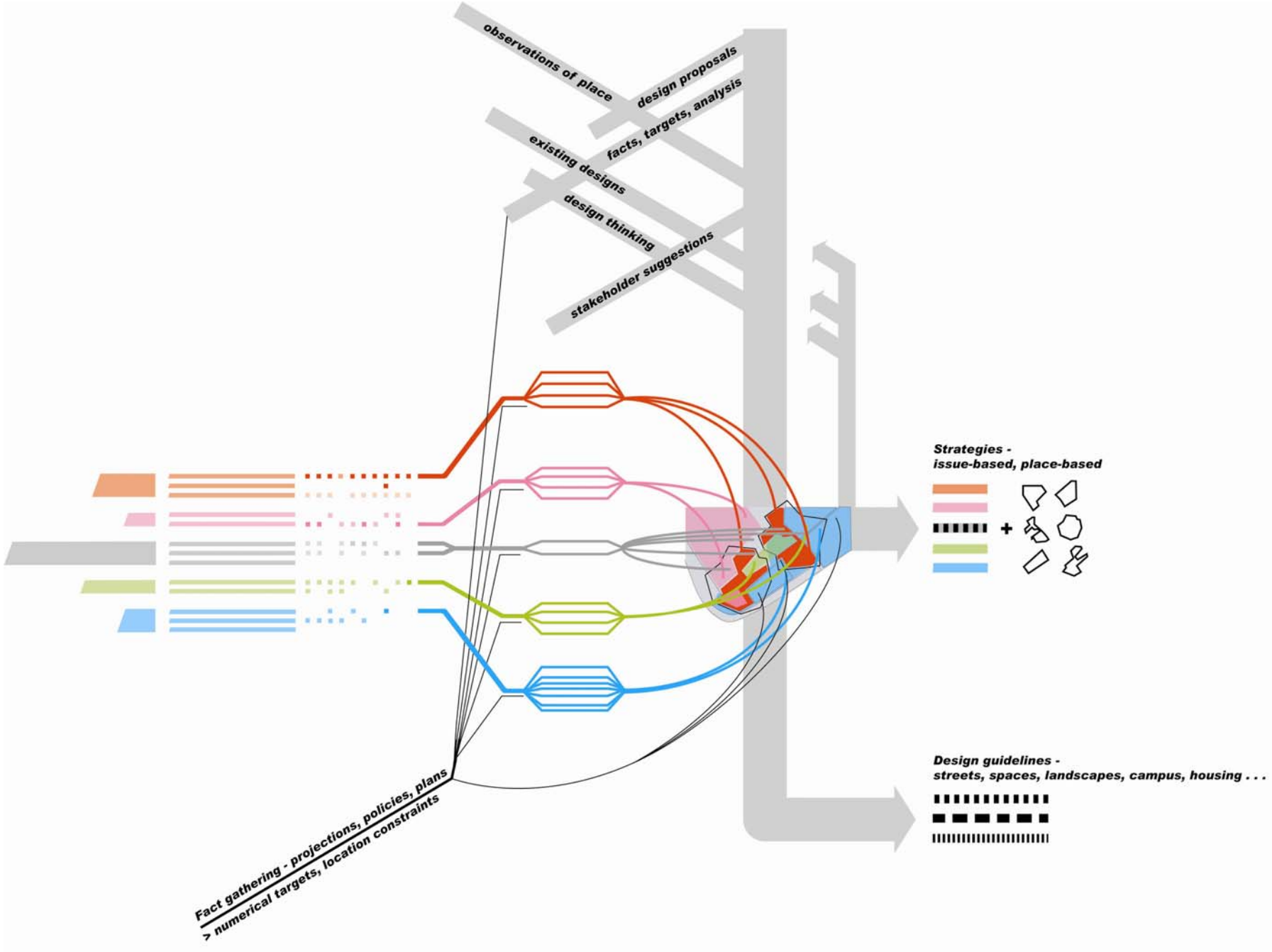
Industrial land
- maintain land currently occupied by Cambridge-serving businesses
- don't maintain land currently occupied by Cambridge-serving businesses

MIT >> community
- MIT's responsibilities only extend to limiting negative impacts
- MIT has additional responsibilities to the local community
- MIT has no responsibilities to the local community

Maximal public benefit
Distributive justice
Preventing harms
Land use rights
Environmental duties
Obligations to future generations
Lifestyle choice
Expectations and promise-keeping
Interjurisdictional obligations
Acknowledging value of rarity/uniqueness

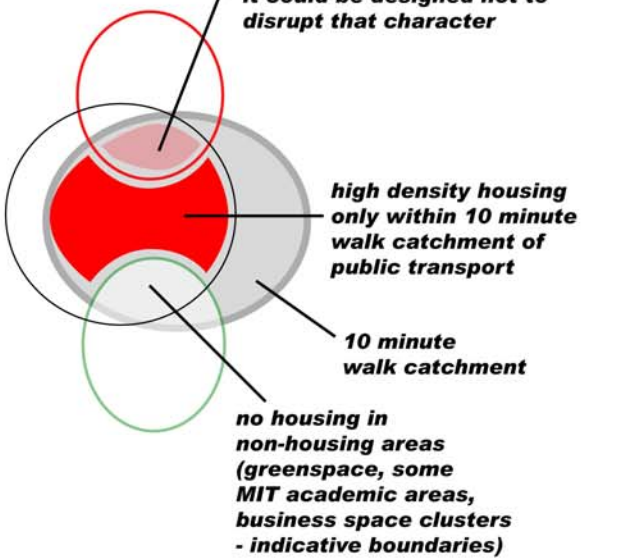


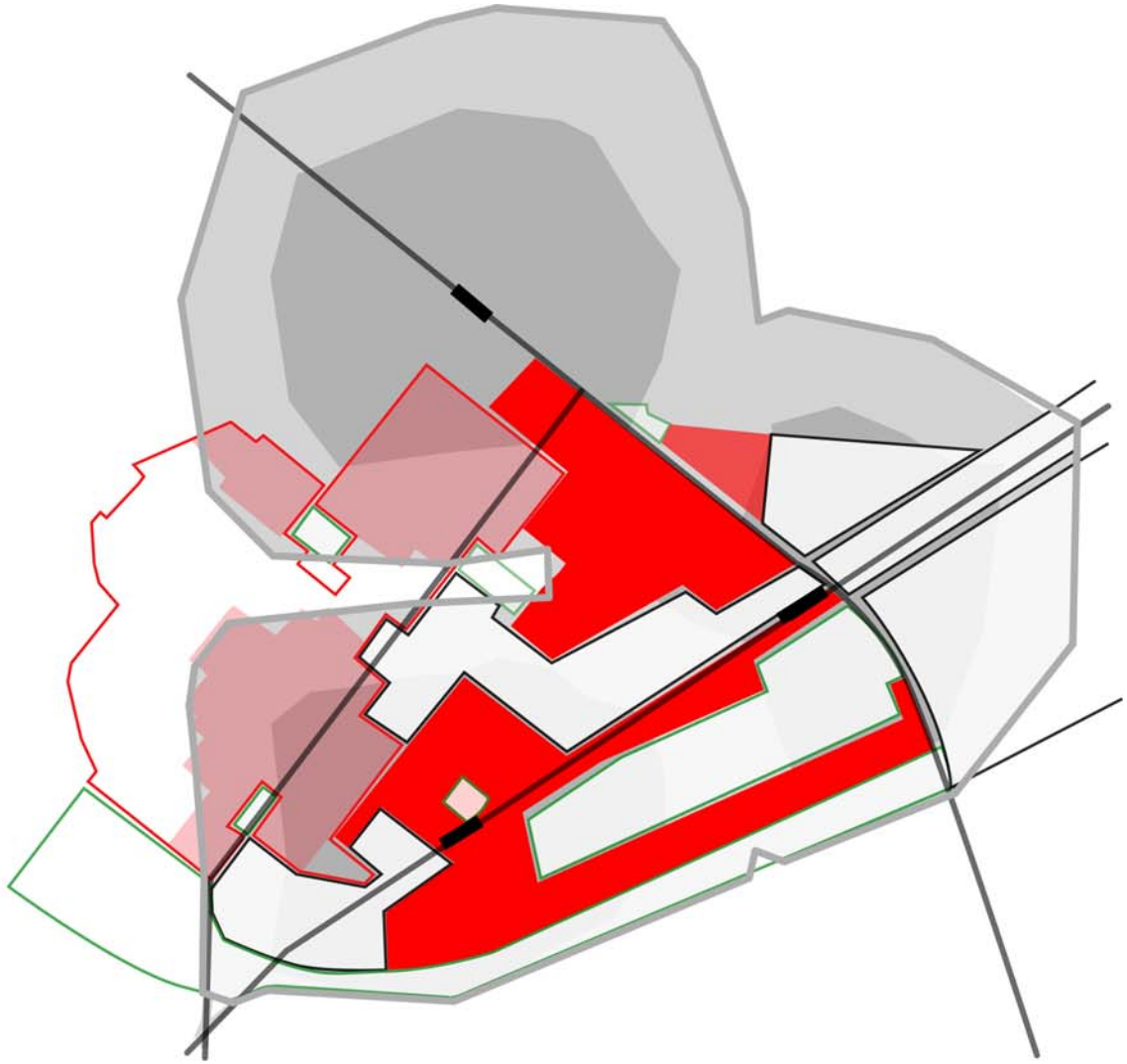


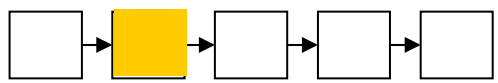

observations of place
design proposals
facts, targets, analysis
existing designs
design thinking
stakeholder suggestions
Strategies -
issue-based, place-based
Design guidelines -
streets, spaces, landscapes, campus, housing . . .
Fact gathering - projections, policies, plans
> numerical targets, location constraints

Housing density

* Raw position: raise average housing density
* Location framework below
* other possible elements of strategy:
  - design guidelines
  - numerical limits for min|max densities

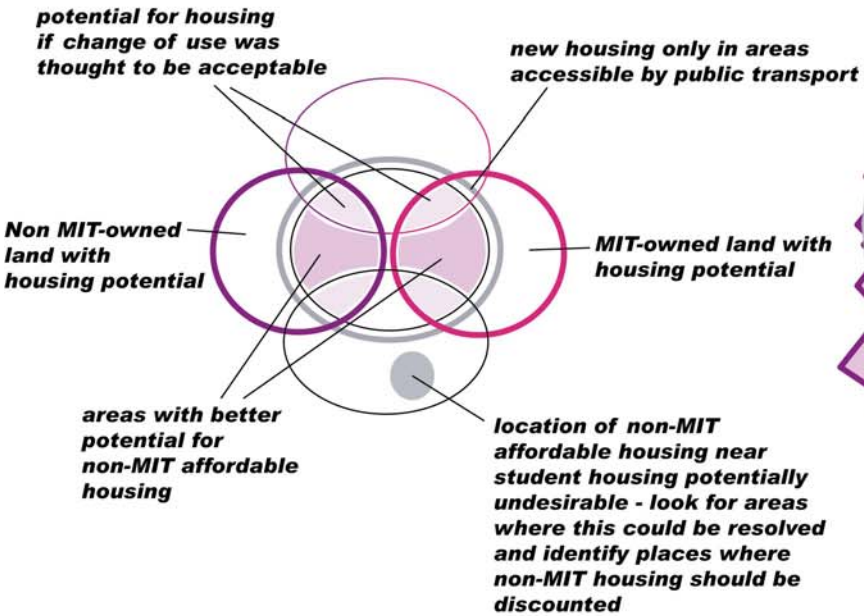


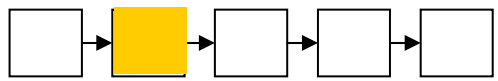




Affordable housing

* Raw position: double current proportion of affordable housing
* Potential areas for including affordable housing on MIT and non-MIT land shown below
* other possible elements of strategy:
  - recommended mechanisms for achieving affordable housing
  - numerical targets
  - definition of scales of affordability (currently 80% ami)
  - separate affordability criteria for MIT rented housing
  - design guidlines





Parking

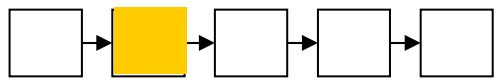
** Possible raw positions: maintain same allowances or reduce allowances*

** Framework would be dependent on:*

- *nature and extent of new development*
- *potential to reduce all parking allowances when Urban Ring in place*
- *potential to reduce MIT student parking allowances (currently 10% total)*
- *whether proximity to central MIT is a decisive factor for vistitor parking or staff and faculty commuter parking*
- *appropriate maximum walk distance from parking to residential and business uses*
- *under what circumstances and in which locations surface parking is acceptable or desirable*

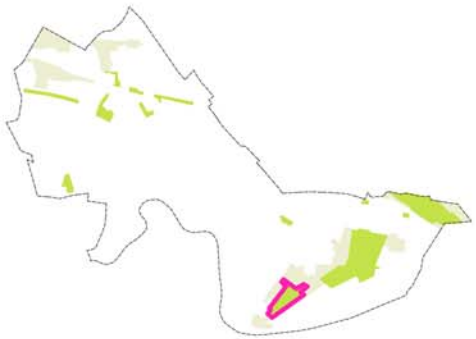
Key

- *surface parking lots*
- *stacked parking*
- *3 minute walk distance to central MIT*
- *6 minute walk distance to central MIT*
- *Cambridgeport residential area*

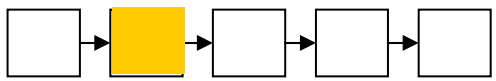


Local businesses and industry

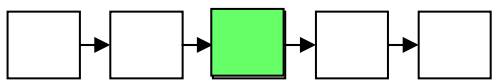
* Raw position: maintain land currently occupied by Cambridge-serving businesses
* Framework for location and amount of business/industrial land would depend on:
  - strategic importance of this area in relation to location and amount of business/industrial land in Cambridge (it's currently roughly 12% of total)
  - assessment of number of vehicle trips generated if businesses displaced
  - assessment of value of local businesses to community - employment and services
  - location of land parcels directly bounded by current and proposed truck routes
  - projections for growth of technology and biotech companies and importance of proximity to MIT or main streets
  - number of potential housing units lost



Key
- current technology or biotech building
- current other industrial use
- current MIT workspace or service building
- existing truck route
- proposed truck route
- land accessible from truck routes
- land recently rezoned as housing only
- land zoned as housing where current uses allowed



Approach 3: the “interference workshop”

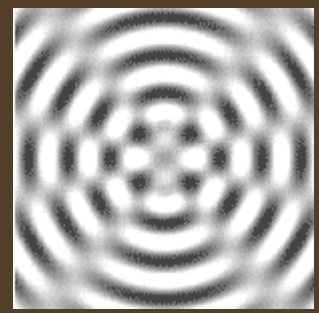


Approach 3: The “Interference Workshop” Merging Five Propositions Together

a.m. Eric, October 16-17, 2003

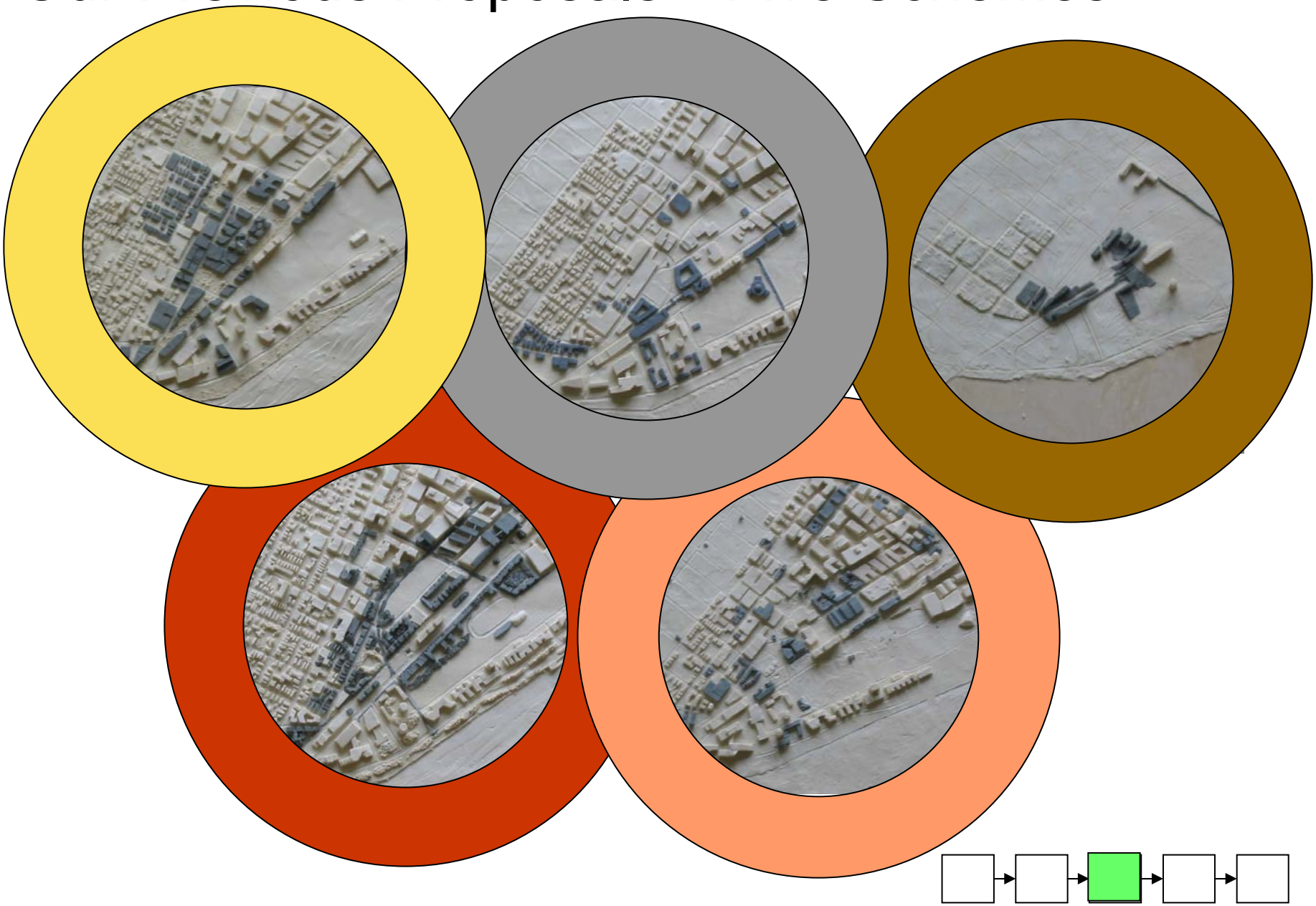
- A two-point source interference pattern creates an alternating pattern of bright and dark lines when it is projected onto a screen.

OVERLAP



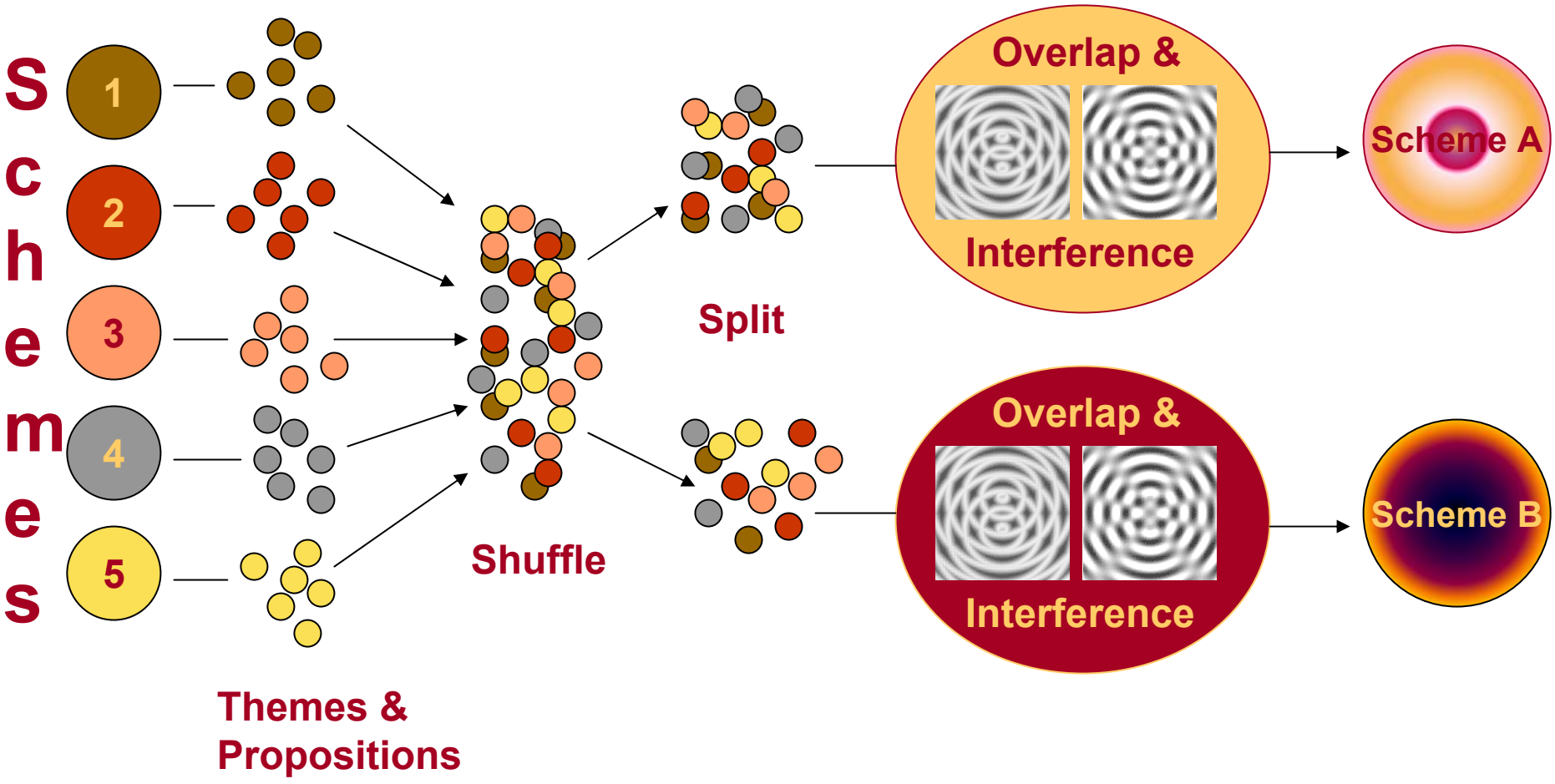
INTERFERENCE

Our Previous Proposals—Five Schemes



Approach 3: The "Interference" Workshop

Process –The "Goldfish Exercise" (Thursday, Oct 16, 2003)



Approach 3: Outcomes

The "Goldfish Exercise"

Team 1: Form-Driven Propositions

- Sunken R.R. greenway with "town square" nodes
- Continue "wall of dorms" along Vassar St.
- Iconic architecture and more gathering spaces
- Strengthen MIT-Cambridgeport connections
- Extend two or three C'port Streets to Vassar St.
- Underground parking and pedestrian tunnels
- Network of pedestrian greenways connecting open spaces
- Build on Brigg's but redistribute fields elsewhere

Team 1: Programmatic Goals

- More Office, Biotech, Start-up & Swing Space
- Improve K-12 Education in Cambridge
- MIT spaces and buildings must be shared with Cambridgeport residents and local businesses
- If not building housing, develop non-MIT "soft-institutional" spaces (such as Synagogues, Churches, Community Pool, etc.) on properties near to Cambridgeport residents

Team 2: Form-Driven Propositions

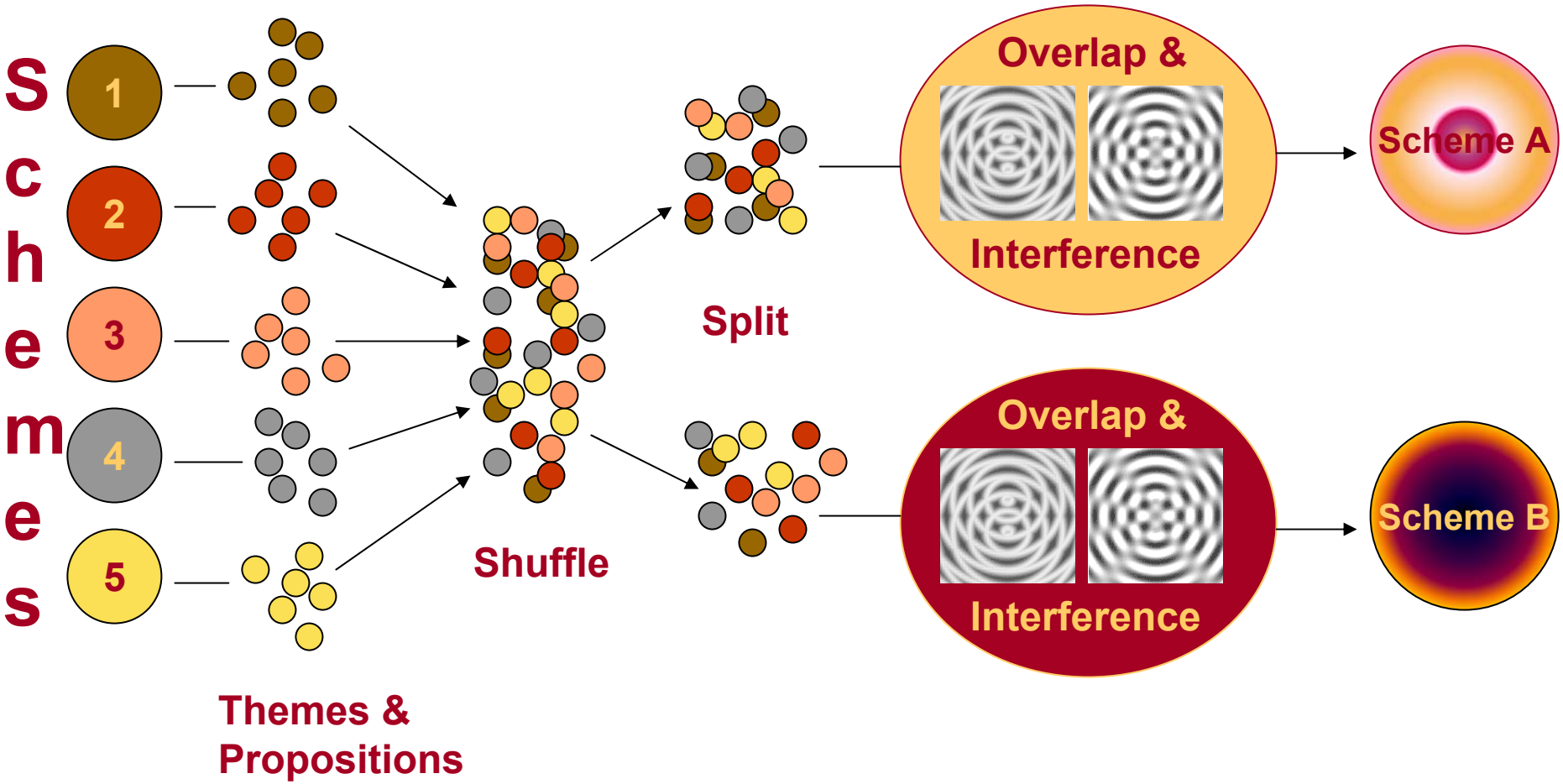
- "Commonwealth Ave"
- "Celebrate" the Gateway to Boston
- Parking beneath Brigg's with above ground links to MIT and C'port
- Inviting pedestrian connections to River
- Extend Infinite Corridor to Fort Washington
- Create "street walls" along Mass Ave, with better street-level activity.
- Integrate architecture with landscape in order to extend playing field landscape into C'port, make physical connections (especially around F.W.), and create public spaces.

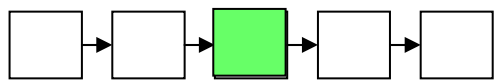
Team 2: Programmatic Goals

- Concentrate MIT institutional development on Mass Ave
- Develop in a way that preserves Cambridgeport businesses
- Locate housing around Ft. Washington & along Vassar St.
- Wide range of housing types for a wide range of potential occupants

Approach 3: The "Interference" Workshop

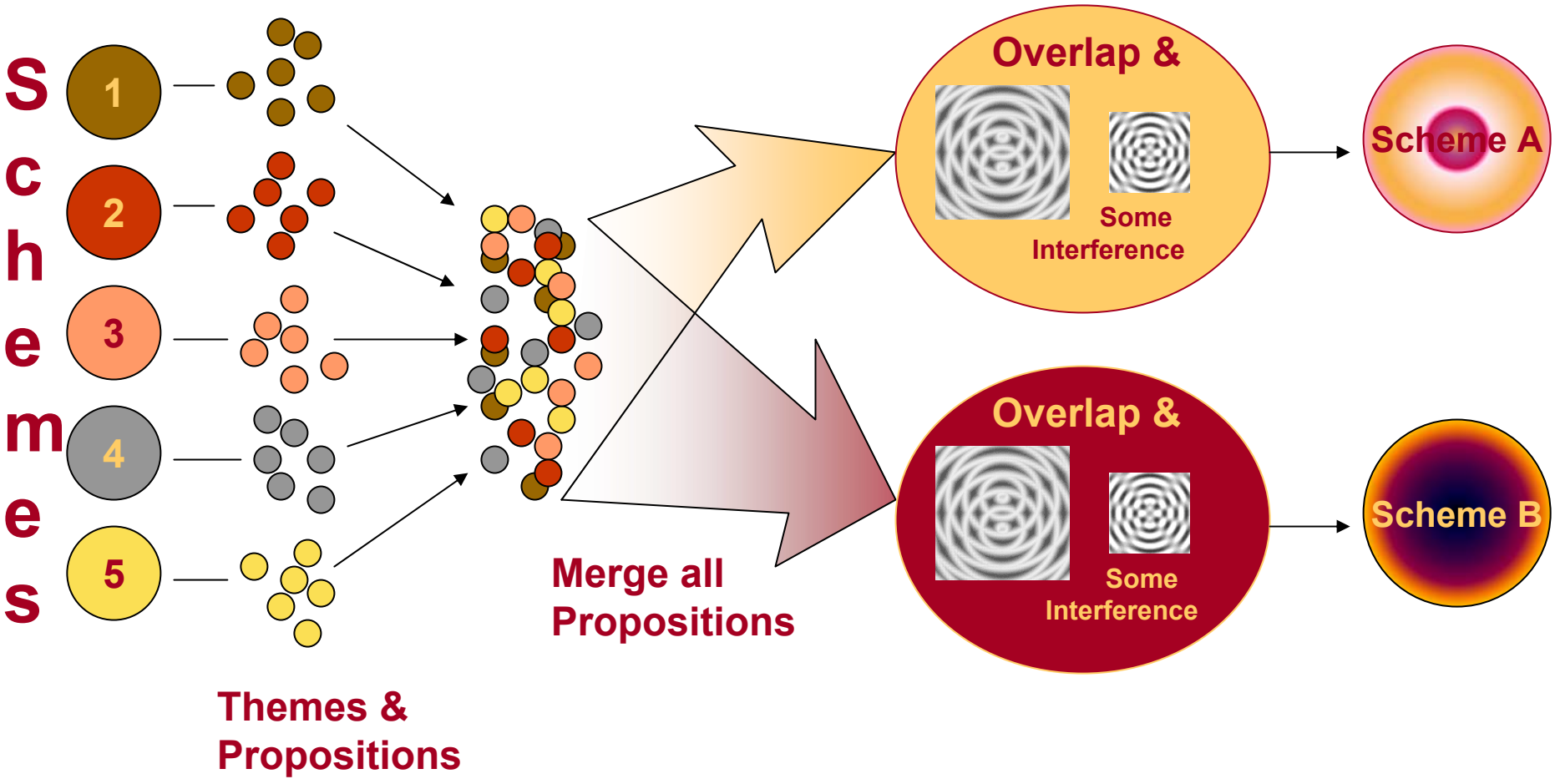
Process –The "Goldfish Exercise"





Approach 3: The "Interference" Workshop

Revised Process –Two Schemes Consolidating All Propositions (Friday, Oct 17, 2003)



Approach 3: Outcomes

Scheme A

Scheme B

Session Three ***"Interference Workshop"*** (a.m. Eric)
Thursday, Oct. 16, 2003

Trends in Both Schemes:
Concentrate Development along (1) Mass Ave. (2) along parts of Albany St., (3) along Vassar St., (4) immediately adjacent to Ft. Washington, and (5) around Ford Plant.

Also: Reconfigure area around Westgate by building more housing around central open space and making traffic connections between Memorial Drive and Cambridgeport.

Scheme A

Scheme B

Scheme A

Session Three ***"Interference Workshop"*** (a.m. Eric)
Thursday, Oct. 16, 2003

Scheme B

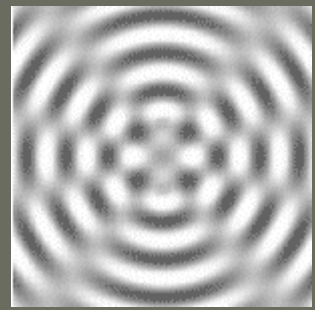
Main Distinctions:
Team One develops with larger grain and higher density, whereas Team Two develops with smaller grains and loose interstitial spaces.

Team One concentrates development around Ft. Washington, attempting to create an activity node, whereas Team Two spreads outwardly and reinforces what is already there

Approach 3:
Lessons learned

- Lessons about our site
  - The site is inherently flexible—It easily accommodated the merged propositions/goals of 5 different schemes without producing much "interference" (both constructive and destructive) between them.
  - There is quite a wide variety of street configurations, open-space patterns and development schemes still to be generated and discussed.

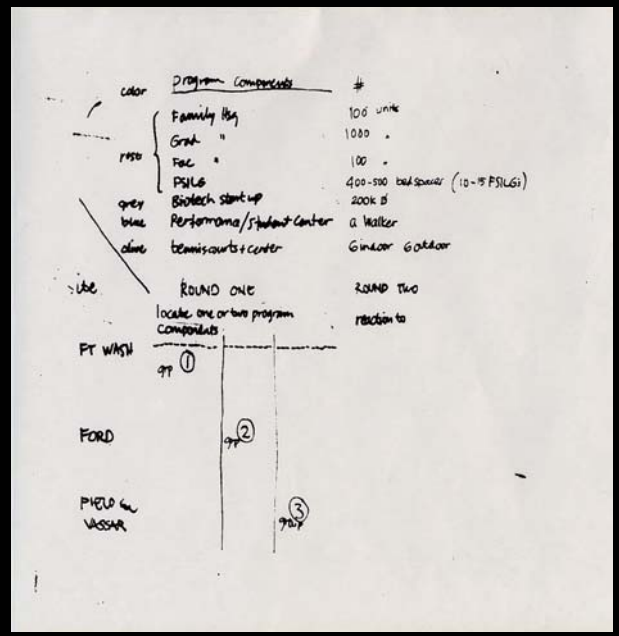
- Lessons about methodology
  - If the aim is to generate novel solutions by merging different schemes, it is best to merge schemes that are fundamentally at odds, otherwise one simply finds overlap that does not take one in a new and interesting direction.
  - Nonetheless, two different end schemes based on the same inputs and requirements produce results that are comparatively revealing, and can highlight new subconscious assumptions.



NOT ENOUGH INTERFERENCE

- If I could do it again…
  - For interest, I would merge schemes that are antagonistic to one another.
  - I would impose more rules and limits (hard requirements) on the game in order to instigate a bargaining process between the different interest-holders of different schemes.

Approach IV: “If x then y”



Multiple Programs

Family Housing	100 units
Graduate Housing	1000 units
Faculty Housing	100 units
FSILG	450 beds
Biotech/Startup/Incubator	200k ft^2
Student/Performance Center	~ Walker
Tennis Center	6 in/ 6 out

Multiple Sites

Iterative Process

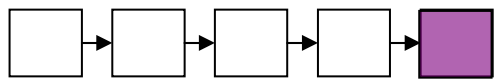
Team 1

Family Housing	Family Housing	Family Housing
Graduate Housing	Graduate Housing	Graduate Housing
Faculty Housing	Faculty Housing	Faculty Housing
FSILG	FSILG	FSILG
Biotech/Startup	Biotech/Startup	Biotech/Startup
Performance Center	Performance Center	Performance Center
Tennis Center	Tennis Center	Tennis Center

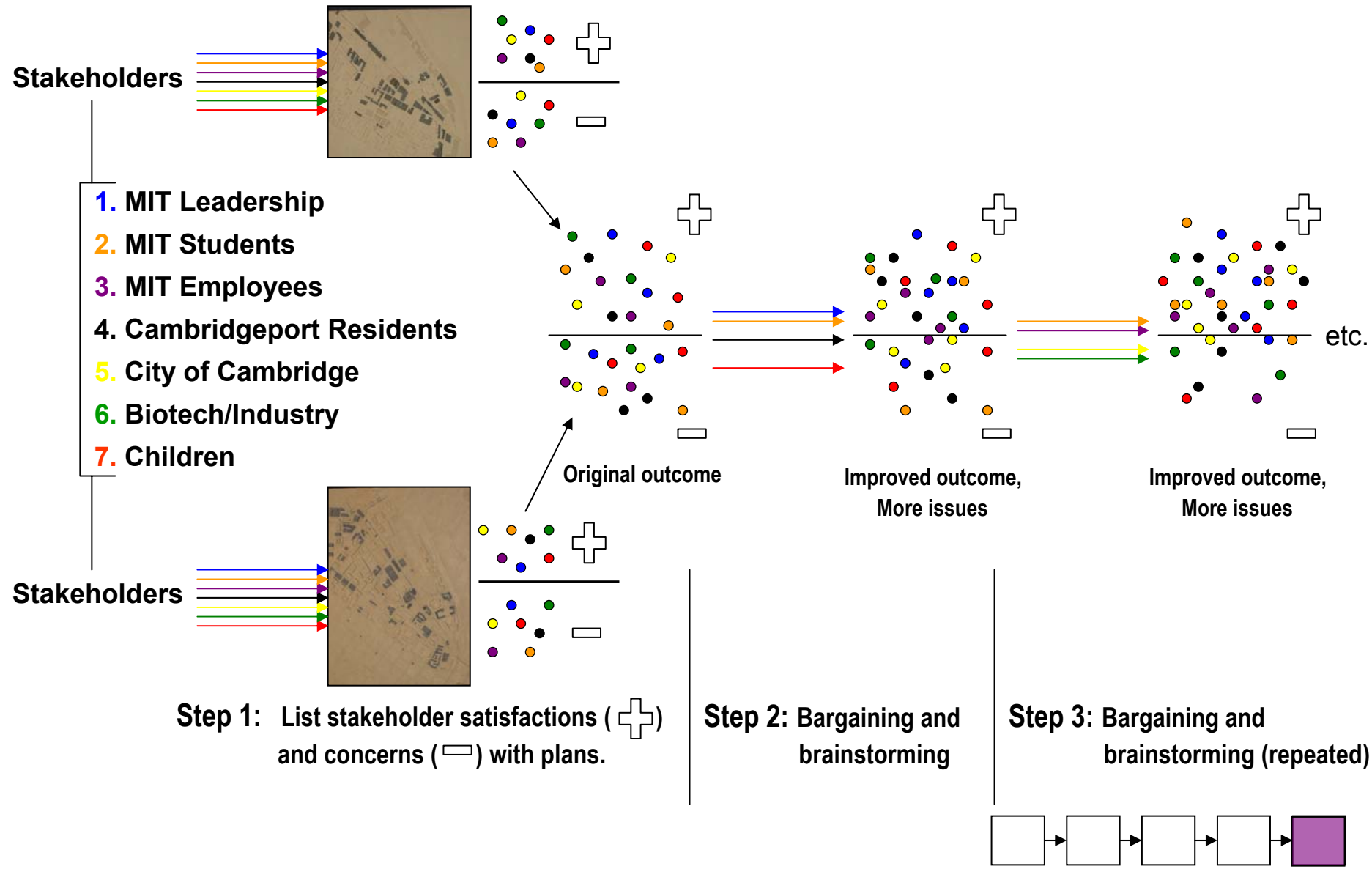
Team 2

Team 3

Approach 5: stakeholder bargaining



Approach 5: Stakeholder Bargaining



Approach 5: Outcomes

Problem #1: Unsafe areas for children

Design Solutions:

- Provide spaces for teens to hang out
  - Commercial nodes
  - Stoops
- Eliminate blind corners
- Provide sufficient lighting

Programmatic solutions:

- Police (MIT or City of Cambridge?)
- Activity after 5pm
- Saferide or similar program
- Investigate University Park model

Specific to Traffic and Trucks:

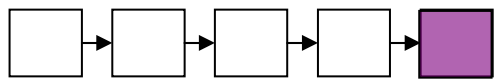
- Streetscape / Traffic calming
- Locate high use streets near biotech and office uses

Approach 5: Outcomes

Problem #2: Wall of dormitories

Solutions:

- •Shift dorms to the Northeast
- •Orient dorms at 90 degrees to Simmons Hall
- •Configure dorms in  orientation with courtyards
- •Quad(s) on playing fields with programmed field in center court



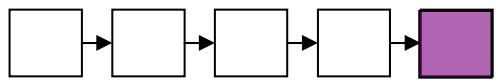
Approach 5: Outcomes

Problem #3: Field Usage

- Came from previous discussion of dormitory wall

Solutions:

- Structure space with paths, lines, buildings, and trees
- Structure amongst scattered sites (quads)
- Student-run space – don't change it



Approach 5: Outcomes

Problem #4: Fort Washington Area

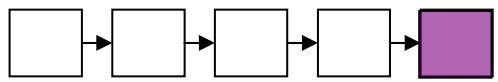
- Came from decision to focus more on spatial areas

Solutions:

- PUD with use contingencies
- Vertex future: contingency, tolerance

Dealing with uncertainty:

- Build to highest degree of use freedom (adaptable architecture)
- But also build to highest certainty for public realm



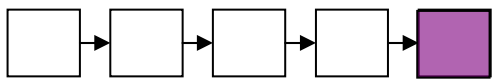
Approach 5: Lessons learned

Site lessons

- Stakeholder groups not geographically or programmatically bounded
- Playing field structure
  - Should the fields be structured?
  - Through addition of buildings or chalked lines?
- Orientation of large structures may be as problematic as size
- Importance of contingency planning

Methodology lessons

- Incomplete knowledge of stakeholder groups' value system
- Difficult to bargain using broad issues
- Each solution generated more points of discussion



Approach 5: Future Attempts

Because issue focus was too broad –

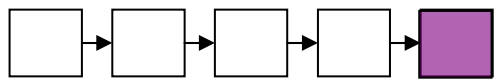
- Use finer-grain issues specific to a location

  or

- Work purely with site-specific focus

- Add additional constraints
  - ➢ Facilitates creativity

- Explicitly state types of goals desired



Lessons learned

Session mechanics

- You can always use more time
- An overly forced structure is better than no structure
- Explicit goals/constraints streamline the process
- Discussion ↑, efficiency ↓
- People are happier when they're eating

Lessons learned

Urban design process

- No solution is ever complete; they all generate more problems (and solutions)
- Complex problems don’t always require complex solutions
- Urban design problems don’t always require design solutions
- Tight constraints can often generate novel solutions

Lessons learned

Site-specific

- MIT's goals could be accomplished within a relatively small built footprint
- Planning without a master plan can lead to an incoherent whole
- Established uses (e.g., the fields) are often difficult to supplant
- Bold proposals may suggest new ways to view the site

Issues to resolve

- What form should the final product take?
  - What would be best received?
  - What is most likely to have a real impact?
  - How much planning and how much architecture?
  - Place-based or program-based (or a combination of both)?
- How best to divide and conquer (given individual skills)?
- What comes next?