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I, Stephanie McBride, hereby submit this original work as part of the requirements for the degree of:
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Veloci-Nati: Using Collage to Design a Bicycling Center for Cincinnati

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VELOCI-NATI

Velodrome and Cycling Center

Stephanie McBride

a thesis submitted to:
The Division of Research and Advanced Studies of the University of Cincinnati

Master of Architecture School of Architecture and Interior Design
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Committee:
John Hancock / Chair 01
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The history of bicycles goes back to the 1820’s. Although they were first a means to expedite transportation, the culture surrounding the bicycle quickly turned into an obsession with speed and freedom. Today, small niches and sub-cultures of cyclists have formed around Cincinnati that celebrate the bicycle and its possibilities for creating a sustainable city. However, due to lack of a constructed facilities, a main event or serious political backing, the cycling scene in Cincinnati suffers from small numbers of participants and a lack of identity. These factors undermine the bicycle’s influence in Cincinnati.

Collage is a compositional technique which, as an innocent unifier and devious catalyst, has the ability to bring many disparate objects or groups together in fresh and innovative ways, forcing audiences to recognize new meanings in the objects of everyday life. Using collage as a method to discover activated space, and connect the disparate cycling identities, this thesis proposes a facility that will become a pilgrimage destination and an outlet to express a sense of identity and place for the Cincinnati cycling community.

The Veloci-Nati Velodrome and Cycling Center will consist of a velodrome, repair shop, education center, showers and a cafe, and dramatic cycling and pedestrian bridges into the surrounding communities. Its collage aesthetic will reflect and respond to the needs of the different cycling identities. The center will ultimately inspire a healthy urban node embodying the intense energy and optimism of the cycling cultures, and help to instigate other means of involvement and change within Cincinnati.
I would like to thank the many cyclists, especially Zach Utz, for inspiring and encouraging me to get involved with cycling. Also, many thanks to John Hancock and Vincent Sansalone for their guidance throughout my thesis document and design. Finally I am thankful for my family and their support, in particular my sister, Jennifer, for the many late night rides home from studio.
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As a student concerned with sustainability and how our existence affects generations to come, I turned to bicycling as a means of exercise and a more sustainable means of transportation. This fondness for bicycling grew while I was on co-op in Portland, Oregon, where biking is a true love affair for many of the population. In Portland, cycling is an extremely important issue when considering politics and the local economy; so influential that the city devotes a month-long event to the cycling culture. Called Pedalpalooza, it includes ten to twelve activities a day centered on cycling. These activities vary from rides to meals as well as political events supporting bike-related causes. During this month, it does not matter if you raced bikes, or only used bikes as a means of transportation or leisurely rides; everyone was participating and was excited about the environment and biking community.

Upon returning to Cincinnati, it was very disappointing to find that the enthusiasm for cycling here was nowhere near the level found in Portland. There are several clubs in the Tri-State area, but these are oriented only to specific cycling sub-cultures such as highly trained triathlon athletes, which is a very specialized aspect of a cycling community. Other groups include artistic individuals who construct their own bikes to represent a personal style, although this is a small crowd who typically enjoy an exclusive and individualistic environment. It is a personal desire and interest of mine to become involved in the small cycling community that exists within Cincinnati, and to help establish a larger center and presence within the city.

Through the research and design of a Velodrome and supporting bicycle amenities I hope to create more awareness for cycling and green transportation options available to cities, especially Cincinnati, and to help encourage the various cycling groups to get involved.
0.10 Image of a Cyclocross Race
010 CYCLING

In order to successfully design a Velodrome and bicycling network within Cincinnati, it is important to first take a look at the history of the bicycle and the communities surrounding such a simple machine; in particular, the history of the road bike and the racing community associated with it. Its beginnings are humble, and the materials and technology were very limited at first. It took fifty years just to develop the pedal, and another fifty to incorporate the rear wheel derailleur making the bicycle truly efficient and practical for a wide audience. The bicycle has seen many class wars and at the same time has helped groups within society gain their freedom. Today, it is still a symbol of that independence; children can be seen riding bikes after school as transportation, and adults who cannot afford a car or public transportation can rely on it for their commute. Thrill seekers try to ride bicycles as fast and far as possible, and the only thing holding them back is the road. Recently, cycling as a practical means of transportation has gained much attention with the spike in gas prices and growing concern about climate change, so the bicycle is has becoming a strong player in the sustainability movement within society.

Having an institutionalized bike infrastructure is extremely important to the prolonged life of a city, as it is an area of interest to that segment of society that Richard Florida has dubbed the “creative class,”1 a group of intellectuals highly concerned with quality of life. Cities such as Portland, Oregon, Seattle, Washington, and Chicago, Illinois, are attracting members of this community in part by providing them with thorough bicycle networks; and ultimately by creating a healthy and desirable environment to live in, focused on quality of life instead of maximizing profit.

Areas in the Midwest such as Columbus, Ohio, are beginning to compete by investigating and implementing plans for future bike growth, also in hopes of attracting a bicycling culture. This includes all members and aspects of the cycling community, such as the people riding for leisure or as a necessity; plus artists and productive people expressing their personality through art and craft of construction; as well as well trained athletes interested in the high performance racing scene.

In this section of the thesis I will review the early history of the bicycle and velodrome; as well as describe the culture and different identities associated with the cycling community in Cincinnati.
ANCIENT BEGINNINGS

For centuries, the bicycle has served society with a liberating opportunity as a means of transportation. It has helped to dissolve class structures and to build women’s rights, it has helped man traverse mountains and break land speed records, and it can be a sleek and inspiring example of art and craft.

The first bicycles and cyclists were far from what society has become accustomed to today. The earliest semblance of a bicycle was made in 1817 and called the “Running Machine,” figure 1.20, in which one would basically sit on a wooden beam suspended between two wheels and glide over the land using one’s tip-toes as a means of propulsion. It was invented by a nobleman, then constructed by tradesmen, but was so crude in design and so expensive that only the male members of the nobility were able to ‘afford’ the ride. It was called simply the Draisine, after the man who designed it. Quickly though, other models were being invented and soon the machine acquired the name “Velocipede.”1 This began an approximately fifty years period of innovative experimentation that was reflective of the progressive ideals of the Industrial Revolution. Velocipedes with three and four wheels began to surface in attempts to make the ride more efficient and comfortable. All of them mimicked the ride and style of the equestrian on horseback and were continuously compared to the horse and buggy’s ease of crossing the country, which the Velocipede could not match.2

Similar to the methods of equestrian academies, and to increase interest and participation in the sport, many manufacturers built large riding tracks next to their factories so that people could test ride the different models

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2 Dodge, p 45.
and become educated on how to ride and maintain a bike. This was also the starting point of a slightly broadened ‘membership’ for the bicycling community as the riding halls began to accept a larger cross section of society. The wider audience can also be attributed to the invention of the pedal, which made the bike much easier to ride. In 1869, riding schools in Toronto began to turn riding into a spectator sport, charging admission to watch the ‘velocipedists’ circle around the audience. This could be considered the first emergence of the speed racing track for bicyclists, also known as a Velodrome, and riding a bicycle as a sport in the forms that we are familiar with today.3

This was the start of a trend in the cycling community to begin racing and establishing cycling clubs. People fell in love with the sport and would organize teams to practice, train and race together. Inevitably, velocipede races were modeled after horse races, which corresponded in every respect including the ‘jockey’ style and dress, as well as the admiration of rider’s legs. The races were separated into two groups, the sprinters and the long distance racers, both of which tested the rider’s skill. These clubs and races were for the upper class so that cycling actually aided in class stratification, since bicycles were expensive and hard to ride. It was during this time that manufacturers also started to experiment with the diameter of the front wheel, thus creating the ‘High Bicycle,’ figure 1.30.

The front wheels continued to get larger while the back wheels shrank in order to maximize the efficiency of the pedal stroke, a simple matter of physics. Unfortunately this made the High Bicycle harder to mount, and a few very skilled upper class men could only master this technique. In an attempt to broaden the audience and to market the bicycle to more people,

3 Dodge, 46.
inventors added a third wheel to aid in balancing on top of the high wheel. The ‘Convertible Sociable’ figure 1.31 of 1877 was developed as a four wheeled machine for two riders to sit side by side. However, in order to truly reach all audiences and classes of people, the bicycle had to undergo a more fundamental transformation.

One of the experiments to make High Bicycles safer to ride resulted in an invention that would allow the bicycle to endure through time. It was the simple shift of the drive chain from the front wheel to the back that allowed the modern day bicycle to be created. This eliminated the need for the larger front wheel, making the vehicle safer to mount and dismount. The new design was dubbed ‘The Safety Bicycle.’ The most direct relation to the modern bicycle can be seen in the construction of the ‘Rover Safety,’ which “set the fashion to the world.”4 By optimizing the relationship and positions of the pedals, saddle and handlebar, the most important connections a rider has with the bike, the Rover managed to obtain the maximum mechanical advantage. Many more inventions and improvements were still in the bicycle’s future, such as pneumatic tires and the rear derailleur, figures 1.40-1 in 1885 which guided the bike into its ‘Golden Age.’ Club memberships were growing to astonishing numbers, for example the League of American Wheelmen had grown from forty-four members in 1880 to 3,560 in 1890.5 This interest and fascination for an object and mode of transportation was not hindered or matched until the invention of the automobile.

Meanwhile, people began to take a fond interest in the speed and adrenaline rush that bikes could provide through racing and record-breaking. These events would take place either indoors or under huge tents on portable wooden tracks that could easily be moved to different locations, another precursor of the Velodrome. The races were called “sixes” because over the duration of six days, athletes would ride continuously to achieve the farthest distance. Riders would ride twenty-four hours straight, and in 1899 riders were averaging approximately 2,750 miles.6 At one point, Paris had six different velodromes to support the popularity of these races. Velodromes allowed spectators to enjoy the sport, creating an intimacy between the spectators and the athletes during the course of the race.

4 Dodge, p 99.
5 Dodge, p 116.
6 Dodge, p 136.
By the twentieth century, bicycles had reached all the corners of the world, providing an entertaining and economical method of transportation for people of all different classes. Today the bicycle serves many different purposes. In western society, where automobiles have become the dominant means of transportation, bicycles have lost much of their audiences and importance within the city. Many children still use them for play and transportation until they receive their driver’s license, while most adults use the bicycle only as a leisure activity. There are also many people today who still race long and short distances, and audiences who watch the sport. This group of racing enthusiasts people has become a culture within itself and has a strong respect for the construction and technology of the bicycle, as well as the social life that develops around it.
In the 1800’s, bicycles were referred to as ‘velocipedes’ and those who rode them were called ‘velocipedists’. Today anyone who rides a bike is generally considered a cyclist; however, each rider has a different and distinct style. These cyclists can be categorized based on their level of skill, where and when they ride, their gear and accessories, and how they use their bike to express themselves. Considering these variables, there are four general groups that stand out: leisure riders, those concerned with production of the bike, necessity and commuting riders, and performance driven individuals.

The first biking group that can be found in Cincinnati has a very relaxed or leisurely attitude towards riding, figure 1.60. This includes any recreational use in which the bicycle ride becomes a pastime, such as a ride in the park on a Sunday afternoon. This group of riders is extremely broad and encompasses just about anyone who can ride a bike, including children who are just riding around with the neighborhood kids; or possibly an elderly person who has an adult tricycle and just rides the bike to occupy his weekend or evening. The great thing about cycling is that the bicycle is now affordable enough that anyone has access to it from a financial point of view, making the leisure category very large. Typically, this group only rides in season, meaning late spring to early fall, and possibly for a couple of hours, or less, at a time. This group also probably logs fewer than twenty miles a year, but, while there are always exceptions, the leisurely rider is characteristically not using the bike for exercise or transportation. Members of this group, especially families, can acquire a large number of accessories, for example: a trailer, panniers, helmets, baskets, training wheels and back seat attachments. They normally wear street clothes and shoes that they could wear to any other occasion. Generally having little knowledge about how the bike is constructed or what would need to be repaired if it were broken, the leisure group does not focus on the components or performance of the bicycle. More importantly, this group also does not typically identify themselves with a bike.
The next category that can be identified is the group commonly nicknamed ‘fixies’, figure 1.61, a nickname that comes from the fact that they ride these riders are riding a fixed gear bicycle, which typically takes much more skill and effort than leisure riders. Often, this type of bike is used by messengers due to its ease of maneuverability in downtown and high traffic areas.

People who ride these bikes will frequently build them from scratch in order to obtain the highest quality parts and keep the bike as minimal as possible-free of gears, cables, shifters or even brakes. These riders are extremely dedicated to their craft and the bicycle fashion. Often involved in several bike clubs, ‘gangs’ or organizations, they can be found riding at all times of the year. This type of constant use is often their only means of transportation, which is proof of their dedication and pride. However, their overall demeanor can come off as exclusive and defensive. Their
clothes and riding gear stereotypically consist of tight black jeans, black tees or thrift store purchases, and spiky hair with bandanas and scarves as possible accessories. Loafers, sneakers, or flats, such as Vans, are the shoes of choice, and the older and more worn they look, the better. Many members of the ‘fixie’ crowd have tattoos and eccentric attitudes to match. However stereotypical their dress and identity can be, there is no doubt that members of this group use their bikes as expressions and extensions of themselves. To a ‘fixie’, cycling is more like a lifestyle than a pastime and this group can sometimes be very judgmental of those who are not involved with the cycling community.
The third group is also very broad and includes anyone who uses a bike either to exercise, in a form other than racing, or to commute, figure 1.62. This group includes a wide range of skill and knowledge, from knowing how to repair a bike to knowing only that it needs a tune up every so often. It is possible for members of this group to log as many as 2,000 miles a year, or possibly as little as 200, depending on their level of seriousness or necessity. Factors that affect this difference include distance, the availability of an automobile is a possible alternative, weather, type of bike, and financial considerations. This group will ride harder and longer than the average leisurely rider and sometimes, depending on the situation, they will ride year round. Again using stereotypes to characterize a group’s fashion, cyclists who use the bike for exercise or commuting can often be seen wearing lycra shorts and helmets with lights and reflectors, sometimes incorporating mirrors and fluorescent clothing to make themselves noticeable to cars on the road. Safety is a huge concern for this type of rider, especially since they have to confront automobile traffic on a daily basis. Members of this group could possibly also participate in leisurely riding; they may also have a fixed gear bicycle and they are often excited and interested in competitive cycling, whether just to watch or to compete. This group identifies with the bicycling community, but does not allow it to consume their lifestyle or affect how they view others outside of the cycling population.
The final group that can be identified are people who are extremely concerned with performance, skill, and new technologies associated with the bike and its design, figure 1.63. This collection includes athletes and anyone who competes in cycling events on a regular basis. Equipped with the highest quality bicycles, often made of titanium or carbon fiber, these riders typically have a high degree of synergy with their machine, which is very important to their performance on the racetrack. This crowd will ride year round with a strict schedule that includes interval, endurance, and strength training sessions. Sometimes sponsored by corporations or companies interested in cycling, these riders wear entire suits, jerseys and shorts made of lycra or spandex in order to optimize the amount of work and minimize wind resistance. These individuals are involved with organizations that identify themselves with bicycles alone, including professionals such as coaches, teammates, nutritionists, and other specialists who are all extremely excited about competitive cycling.
The biggest difference among these four groups is whether or not they identify themselves as a cyclist within the cycling community, or whether the bicycle is just an object in their garage. The ‘fixies’ are the most obvious fit within the bicycling society, since their lifestyle and personality are closely connected with their bike. But some degree of identification can occur with any type of involvement. The opportunities that a city provides and supports can have a definite impact upon the various cycling communities. By comparing Portland, Oregon, to Cincinnati, one can begin to understand what a successful bike culture consists of and how important it is to the community.

The bicycle culture in Portland is an extremely rare and unique community. Other cities compare, like San Francisco, or Tucson, or Burlington, Vermont, but it has been proven that the urban environment and city planning in Portland promotes the bicycle culture, which makes it an interesting precedent for other cities. In the 1970’s, Oregon’s legislature required all Oregon cities to develop comprehensive plans with zoning ordinances that conform to those plans. Oregon later developed the Land Conservation and Development Commission that further mandated the urban-growth boundary and suggested severe restrictions on what could happen outside of those boundaries. These urban boundaries created sectors surrounding the city that encouraged growth downtown and ultimately protected the wildlife and rural homeowners outside the city. In conjunction with these boundaries, Oregon’s 1000 Friend committee began studying land-use transportation and air quality standards. These studies show that “people living in higher densities with good transit service would drive less than people in lower densities”. In response to this, Oregon adopted a transportation planning rule, with the goal that in thirty years all urban areas with more than 25,000 people would reduce their driving by twenty percent per-capita. Rules and regulations like these are exactly the

2 O’Toole, p 238.
3 O’Toole. p 240.
supportive environment that bicyclists need in order to truly thrive within a downtown urban area. Bike-friendly planning creates a multitude of opportunities and venues for a city, one of which includes economic growth as well as population density, diversity and political interaction. Portland itself has spent nearly $20-25 million on bicycle infrastructure, with plans to spend roughly $24 million more to significantly expand the bicycle network. The investment has definitely paid off considering the number of Portland’s bike commuters has doubled from 1.79% of citizens to 3.51% in 2005, and still growing.⁴

![Combined Bicycle Traffic over Four Main Portland Bicycle Bridges Juxtaposed with Bikeway Miles](image)

1.64 The graph above represents the many cyclists who commute by bike daily to their jobs in comparison with the average bikeway miles. It shows that if infrastructure is improved eventually it becomes easy enough for the masses to ride.

The bike culture within Portland, however, has not developed in response solely to these political and infrastructure improvements; although the extensive lanes, corrals and bicycle related businesses makes it extremely easy to find one’s way within the community. The culture has also established extremely effective methods of communication. Bikeportland.org is a popular bicycle blog and provides the opportunity for cyclists to communicate about political and personal encounters, books for bikers,

photos that people have taken and wish to share, the local news, and information concerning cyclists’ daily travels. The editor of bikeportland.org describes the bike culture in Portland:

Much of Portland’s bike culture has nothing to do with activism, a “cause”, being anti-car, or anything like that. What is special about what happens here (and I think should provide a lesson for those in other cities) is that “bike fun” (a term that is common parlance thanks to Shift) and a simple love for riding are what bring people together and get people on their bikes.

This is a great way to explain how the bike culture in Portland has developed, around ‘bike fun’ instead of the commonly presumed activism and the sometimes negative connotations associated with it. Although the culture is very deep and has many layers within it, the overall attitude reflects a fun and carefree environment that is very supportive of individuality. In the United States, where bicycle usage is low, the ‘bike culture’ refers to the cycling subculture and the related fashions and characteristics.\(^5\) As with other cultures within society, bike culture includes the music, films, rides such as Critical Mass, art and ‘freak bikes’, plus books and events associated with bikes and the people who ride them. In Portland, this is most prominent best exhibited during the month-long ‘Pedalpalooza’ bike celebration, where at least ten organized themed rides take place daily, like the World Naked Bike Ride, the Wurst Ride Ever, and the Zombie Ride. The bike culture in Portland also includes anyone from “Zoobomers” to competitive racers, to commuters and underprivileged people who depend greatly on their bike for their livelihood. There are thousands of people who bike within the city for various reasons and to different degrees of intensity. Beyond its shortcomings, there is no doubt that a bicycle culture exists in Portland, and that the city can stand as a prime example for other cities to follow.

Cincinnati is one of those cities that need to be looking at Portland as a precedent to update its bicycle infrastructure in order to be competitive at a global scale in the 21st Century. With a severely outdated bicycle route map, small racing scene, and weak critical mass involvement, Cincinnati is seriously lacking in its support or readiness for a bicycling culture.

\(^5\) Maus, BikePortland.org.
Jonathon Maus offers a useful distinction in the bike cultures in Portland, saying that people either consider themselves “bike riders” or “cyclists” and that helps to determine whether or not they are a major part of the cycling culture and scene within a city. “Bike rider,” does not participate or identify with the bike, they simply use it as a means of transportation, which could begin to explain why many people in Cincinnati do not participate in the culture. Another reason for the lack of involvement can be attributed to the physical structure of the city and the weather, two elements that create extreme environments that a “bike rider” would not be able to conquer. Thirdly, although the bicycle culture is only now gaining strength politically, the infrastructure still makes it hard to navigate the city without being oppressed or threatened by automobile traffic. Therefore, many people still view cycling as a dangerous mode of transportation that is not viable for all audiences. It was not until recently that the city acquired funding to update a professionally developed city bike plan, the first since 1976.

Even so, there is hope for a city like Cincinnati. Just recently officials announced the development of a bicycle center as part of its Riverfront Park, allowing for secure parking, showers, and locker storage. Ideas are emerging about commuter routes, shared roadways and dedicated trails. However, the city needs to accelerate the process in order to capture the culture and excitement associated with biking and the environment. The potential is significant, as Gary Wright observes, “It’s not just about bicycling. It’s about how we can retrofit our neighborhoods and our region to be a more interesting and dynamic place.”

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“It’s not just about bicycling. It’s about how we can retrofit our neighborhoods and our region to be a more interesting and dynamic place.”

-Gary Wright, Co-founder of Queen City Bike
1.70 More ‘Bike Fun’. Cyclists here are presenting their team colors just before racing on indoor rollers in a sprint obstacle relay race.
According to the prologue in the latest draft of the 2009 Cincinnati Bikeway Plan,

“The bicycle is an agent of change. It is the most inexpensive mode of travel, provides cardiovascular fitness and door-to-door access. It reduces air pollution, global warming and acid rain, decreases reliance on fossil-based fuels and decreases noise pollution from automobiles. It provides mobility for citizens without cars or those too young to drive. It improves the overall quality of life for everyone in the city.”

One would think that such high regard for the bike, and the systems associated with it, would make it easy to implement a biking infrastructure, and yet in Cincinnati it has proved to be more than difficult. In 1976, the city government requested a formal bicycle plan and established an advocacy, volunteer-run bicycle advisory committee to put one together. The committee worked diligently to complete the plan and incorporated existing infrastructure to develop methods of allowing cyclists to coexist with automobiles. The Cincinnati Bikeway Plan developed in 1982 included a key timeline, which suggested several trails as well as integration of recreation centers and consideration for bicycle infrastructure, such as bike lanes and boulevards, ultimately to be completed in 1976. However, nothing was ever done with the plan, due to the fact that the cost of executing the recommendations was too high. Since then, there has been a more formal establishment of the bike advocacy group, Bike/PAC, in 1992, to aid with the implementation of the bike plan, but the group is currently underfunded and understaffed. It is important to note that further construction on the trails and recreational routes has been attempted, but the overall connection and integration throughout the city has not been taken very far, due to the fact that the plan is now outdated and moreover now lacks support from government officials. Engineers and planners face a large amount of resistance to any of the necessary changes in infrastructure or the alterations to public walkways, roads, and sidewalks that would be required to incorporate the plan within the city.

1 Wright, QueenCityBikes.
Belated attempts to integrate cycling into the design of Cincinnati’s infrastructure can be compared to the “Initial Advantage”, a geography term described by Richard Florida in Cities and the Creative Class, explaining the advantage cities gain by being the first to develop economic activity. This advantage can be found at two distinct levels, one within the city and the other when comparing Cincinnati to other cities at a national scale. Since Cincinnati did not develop and integrate the infrastructure for cycling early

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1.80 The Cincinnati Bike plan, above, shows Recommended routes in blue, Alternate routes in yellow and routes Not Recommended in Red. For the whole map, please refer to the Appendix.
on, and failed to dedicate itself to the cause from a political and economic standpoint, it is now infinitely more difficult to incorporate cycling.

Cincinnati cyclists are currently in a situation where the average cyclist, with the desire to become involved in the cycling scene, refuses to ride their bike in Cincinnati due to the fact that drivers here are very aggressive and create an unsafe environment for bikers. However, according to Danny Cross in his article “No One Rides for Free”, if people would ride their bikes, Cincinnati would become less dangerous and therefore cycling would gain more power. These issues with cycling have developed because cycling in Cincinnati did not have the original push and weight that other modes of transportation carried. Unlike Portland, which has been urbanistically planned based on orthogonal street patterns, Cincinnati has unique topographical issues that made planning the roads difficult. Because of the complicated intersections and street patterns in Cincinnati, incorporating bike routes has resulted in a very ‘piecemeal’ plan. This ultimately increases the “Initial Dis-Advantage” facing Cincinnati’s cycling scene.

It is also important to consider the implications of the lack of Initial Advantage at a larger scale while comparing Cincinnati to cities such as Portland. In this case, Portland has developed a highly integrated and well-documented bike route and cycling infrastructure, figure 1.81. Statistics have shown that in Portland, the number of automobile crashes has gone down, as well as the overall death rate associated with air pollution; and an increased level of physical activity has resulted in a decreased obesity rate. These statistics point towards a successful integration of cycling; and because of this, Portland’s neighborhoods are “much more pleasant places to ride your bike or walk or play in your front yard,” according to Greg Raisman, a Portland traffic safety specialist. It is this sort of environment and pedestrian friendly infrastructure that gives Portland the Initial Advantage over Cincinnati when it comes to attracting people and capital to the city. The increased livability of a city will ultimately attract more

PORTLAND BY BICYCLE

LEGEND
- MULTIPLE PATHS
  Closed to motor vehicles
- SHARED RIDERWAY
  On lower traffic street
- BIKE LANES
  On major streets, usually on
  right side of road
- SHARED RIDERWAY WITH
  BIKE LINES
  On lower traffic street and
  higher traffic street
- DIFFICULT CONNECTION
  Major streets with
  mixed traffic
- BIKE ROUTE SCENI
  Major streets with
  functional characteristics to
  make cycling friendly
- STEEP ROLLS
  Major streets with
  steep slopes
- MAJOR STREETS
  Traffic conditions vary by time of day

Traffic conditions vary by time of day and weather. Traffic is medium
or heavy (5 to 20 vehicles per minute) between 6 a.m. and 9 a.m. and 4 p.m.
and 6 p.m. (Friday) and the later afternoon on Sundays.

We are very grateful for the large amount of information from the
community, including the quality, accuracy and completeness of this map.
Please report any errors or omissions.

1.81 The Portland Bike Map (above) shows a piece of the bike map that the city refers to as a means to ride around the city by bicycle. It’s important to note the many different options that cyclists have, such as roads with bike lanes, bike boulevards, high traffic or dangerous roads and public pathways. See Appendix for full route map.
1.90 Cincinnati Parways Plan. This diagram shows a high level of connectedness that the city hopes to eventually achieve with the bike paths and park systems. Shown in thin solid green lines are the existing paths and the thin dotted green lines are the proposed paths.
Given these obstacles, and the difficult constraints facing any efforts to establish a bicycling culture in Cincinnati, it will be necessary to pull together the disparate biking subcultures and to create a new, vivid, visible infrastructure for biking in the city. In order to attract and evoke these multiple bike identities, and capture the dynamism of the biking experience within Cincinnati, the Veloci-Nati Bike Project, will use the process of collage as a series of experiments to develop a formal design language for the facility representative of bikes, bikers, bike-related activities, and bike culture.

The several different cycling identities, discussed previously, have settled in disparate nodes around Cincinnati. Each area entertains the different identities and therefore keeps the overall cycling presence remote, diffused and alienated. This fact, together with poorly made decisions considering infrastructure and cycling in the downtown area, has helped make Cincinnati one of the least bicycle friendly cities in the nation, according to the League of American Bicyclists, falling quickly behind Columbus and Louisville.\(^1\) It is this distinction of identity, the separation between “cyclists” and “bike riders” today, as well as the serious need to create a stronger and more unified presence among Cincinnati communities, that has led this discussion towards collage as a design method. It is necessary for the survival of the city that it more successfully attract the “creative class”, which will require a more pedestrian and bicycle friendly city. Through collage, this thesis proposes that the different bicycle-related identities, activities, and units throughout Cincinnati can be brought together into a vibrant interaction and ultimately act as a catalyst for change and improvement within the community.

Culture today has become dominated by sound, motion, and a compression of space due to the increased availability of technology and communication. Life is quickly becoming a series of non-linear situations1 as described by Richard Flood, Chief Curator of the New Museum. The curious consumer can instantly connect and communicate any idea, question, or answer, over the Internet. Possibly for the first time in history, the next generation will no longer need their predecessors for life lessons or mentorship due to the fact that the Internet provides a much broader information base. Within this society and culture, artists, architects, and creative communities have been searching for a Zeitgeist, or “spirit of the age”, figure 2.30, and according to Flood, collage captures these qualities of our time and “is one of this and last century’s great, popular, international pastimes. Anyone can make it and most do.”2

Collage can be seen in many aspects of our lives today, for example, the shuffle function on iPods, Google search results, ‘youtube’ videos, and the thousands of products available for purchase on Amazon.com. For a more tangible reference, newspapers and magazines have been forcing juxtapositions of advertisement and articles for years. The images and sequences for viewing pleasure are edited and manipulated to serve a multiplicity of motives. The Internet is a key instigator of this hectic mind set that we have become so accustomed to as members of this digital world. “Every citizen in our society is a tourist on a delirious safari traveling through an expanded landscape of moving images, audio alternatives, and the insistently transformative Internet,” Flood writes. This “delirious safari” has created a society of junkies waiting for their next digital hit, or for the next construction of fractured information in order to satisfy their need to be a part of the global community. In this environment, collage will exist and remain a relevant medium and outlet for artists and creative individuals within our society.

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2 Flood, p 8.
2.30 Oliver Bishop Young designed an urban instigation called, "Skipwaste", shown above. The images above inherit a real spirit representative of our times. The garbage bin is a physical representation of collage within.
Fillip Dujardin is a creative photographer who resamples space by collaging images together, highlighting spaces typically not meant to be viewed as a public facade. These 'constructions' have become symbols of the non-linear society that we live in today.
The use of collage has become a method to make sense of the world and fuse connections between the ‘real’ and ‘pictorial’ worlds that people are constantly being bombarded with. It is also through collage that the cacophony and multiplicity of our interactions with the general population can be preserved. Unlike other media, such as painting, collage exploits the use of pictures and printed material as its main substance. This incorporation brings an element of reality and truth to the artwork or cultural gesture that painting or other representative art forms are unable to attain. This freedom from skill and technique in conjunction with the simple act of collage, cutting and gluing, allows collage to maintain humble and democratic origins. “Given the wide use of images from printed material in collage…it is a most appropriate material in a world where words and images bombard us in rapid succession and conspicuous consumption is tied to personal happiness as well as patriotic duty.”¹ The search for a design method within the spirit of our times, as Phillips explains it, is to be pushed among the many pages and websites visited daily and that ultimately regularly juxtapose the world in the form of collage.

Rooted in printed material and construction, collage is a simple process of cut, arrange and paste figures 2.41-2. It originated as a means of expression and was originally considered folk art. As a craft, collage was used to create holiday cards and decorations for parties since it was such a quick and easy process, free from the need for much skill or education. The physical act of cutting and pasting was a return to ‘bricolage’, a French word meaning, “to make creative and resourceful use of whatever materials are at hand, regardless of their original purpose.”² There was a certain crudity about collage that made it appealing to the masses as a reasonable form of artwork. This new craft gave birth to a new freedom allowing anyone the ability to express themselves using elements from their own lived worlds, and, regardless of their original meaning, juxtapose the images in a manner not typically seen on a day to day basis, thus inspiring the audience and

2.41-2.42 These images from Picasso, top, and Juan Gris, bottom, are good examples of early collage. The crude, folk art style which becomes inherent in the collage due to the technique and manner in which they are constructed. The hand, blade and glue become apparent as the seam between objects, as the pictoral and the real collide.
viewers to become engaged with the art.

An important part of the collage process is the literal operation upon the lived world. “One cuts and chooses and shifts and pastes, and sometimes tears off and begins again.” According to William C. Seitz, there are three levels of operation that can be performed upon our lived world: “that of tangible materials, ...that of vision, ...and finally that of “literary” meanings.” When considering the tangible materials, one’s own hand becomes very important in its search for items and arrangements that signify the lived world. This represents the communication between the mind, eye, and hand in order to gather material and found objects representing one’s own life-world. Often it is the tactility and ability to incorporate senses other than just vision that becomes an inspiration for artists and audiences when considering collage. The hand collects media from anywhere in the everyday world, found on the streets and city sidewalks, such as left over ticket stubs and memorabilia, as well as newspaper clippings and magazine articles. These various items are then arranged and re-arranged according to the artist’s motives in order to create one or more images representative of the artist’s expressions. When glued to a surface, the collage becomes a bas-relief of a lived reality, allowing the artist to bring everyday objects, such as wallpaper, into question and possibly give them new meaning. Braque and Picasso were the artists who developed collage into a high art form and were, at first, trying to resolve the difference between the flat illusions that painting offered and create a new art form that helped reaffirm their place and connection with the real world. This ability to arrange and possibly start over again is a result of the medium and process; therefore, without reference to likeness, collage acquires an energy, force and emotion from the fact that it is done with feeling instead of awareness of representation.

The second form of operation concerns vision, which Seitz refers to as the point “when colors and other formal qualities alter each other and blend like tastes or scents...” When considering ‘vision’ along with the

5 Seitz, p 81.
formal qualities of a painting, it is also important to realize the rejection of
illusions, which “simulate three-dimensional spaces and volumes, qualities
which can never be actually manifest on or in the painted surface.” Collage
technique’s inclusion of representation, instead of illusion, is created
through the visionary and formal attributes that the hand discovers in
collage. In using collage as a form of high art, Braque and Picasso were
constantly molding and bending the rules of visionary formalities to create
poetry with the fragments of daily life.

Thirdly, it is the operation upon the ‘literary meanings’ that is possibly the
most well known technique. Collage becomes a strategy of force, making
unlike objects cohere to each other through composition. “...[I]ts peculiarity
is that in the best examples, individual elements do not, in the words of the
photo-collage maker John Stezaker, ‘disappear into their use,’ but rather
retain their identity even as they contribute to a larger narrative.” The
collage maker chooses certain images to represent his thoughts and his
interpretation of the images’ identity or meaning. Ultimately, the process
and technique of collage is simply bringing the many into one, whether it is
in the form of a tactile operation, a visionary or formal creation, or with the
intention of creating new meaning and identity. As Donald Kuspit put it,

“Collage is a demonstration of this process of the many becoming the one, with
the one never fully resolved because of the many that continue to impinge upon
it. Every entity is potentially relevant to every entity’s existence. This is the
relativistic message of collage: the keeping in play of the possibility of the entry
of the many into one, the fusion of the many into the one.” (figure 2.50)

7 Hoptman, Laura. 1962. “Collage Now: The Seamier Side.” In Collage:
The unMonumental Picture., 8-10Merrell. p 10.
8 Kuspit, Donald B. 1989. “Collage: The Organizing Principle of Art in the Age
These are two images from Ben Nicholson’s Appliance House; more specifically, elevation iterations of the Kleptoman Cell located within the house. In these images it is especially important to note that the individual objects are identifiable, though they ultimately mold into one image representative of the Kleptoman Cell.
This ‘play of the possibility of the many into one,’ is a key element in the development and success of collage. The juxtapositions of one object against another create a sequence of events and story lines that the audience is asked to decipher when viewing an artistic collage. The constant movement of the eye between the piece and the whole creates an energy or force that is unique to the medium of collage. As a collage artist, one uses actual pictures instead of an artistic representation of an object, or paints in such a way that an illusion of the object is out of the question. Due to this representation factor within the medium, the collage leaves no question about what the pieces once were, nor does it try to mask the identities of the objects that are being collaged. Each entity relies on every other entity’s existence in order to create the effect of collage. In the early Cubist collages, especially seen in Picasso’s “Still Life with a Chair Caning”, figure 2.60, the incorporation and juxtapositions between representative objects as well as illusions and fragments of paint begin to establish what Kuspit calls a “semiotic density.”¹ These signs and symbols are objects and evidence of our lived-world projected upon a common surface.

Unlike most art forms available for experimentation, collage is one of the few that encourages such a force and intimacy with objects that we find in everyday life. Collage creates a moment when, “…the a logical collusion of two forms...illustrates the moment of struggle between logic, the natural law, bourgeois sense and prejudice.”² What Katherine Hoffman is referring to here is a certain exploitation of juxtaposition and the chance meeting of two disparate truths, which is what makes collage such an active and exciting medium to work with. According to Andre Breton, “[collage] couples two apparently uncoupleable realities on a plane apparently unsuitable to them.”³ It is in this way that collage gained speed quickly as a political channel allowing creative ventures to exploit everyday elements in a unique and challenging way.

¹ Kuspit, p 193.
² Hoffman, p 9.
³ Kuspit, p 17.
This ultimately gets the viewer involved with the collage and asking questions of the collage and the artist’s motives. This method of force and juxtaposition is exclusive to collage, which therefore is sometimes viewed as a crude and violent means of art. However violent as a process, collage has been an exceptional medium for inspiring a connection between the pictorial surface and the real environment. “This gentle invasion of the lived world into a more rarefied one emblematized the most important conundrum of post-realistic art; namely, how to bridge the unavoidable gap between what we call art and what we call life.”4 Some of Picasso’s and Braque’s Cubist works have become essentially an art of realism and abstraction, ultimately trying to incorporate reality literally and physically within art. Developing trompe-l’œil in their paintings an artistic technique that attempts to create an optical illusion depicting objects in three dimensions on a two dimensional surface, Picasso and Braque were searching for a process or art form that allowed them to escape the flatness of painting. By experimenting with the canvas and the relations between object and canvas, and different paints and admixtures, collage emerged as an end to enhanced flatness within painting, according to Greenburg.

4 Hoptman, p 10.
Still Life with Chair Caning was Picasso’s first synthetic cubist painting, a term used to refer to the inclusion of actual objects and artifacts within the work. By taking a close look at the painting, we can begin to understand how Picasso used collage as an artistic means to bridge the gap between a pictorial image and reality. The first thing one notices about the work is that roughly half of it is painted and the remaining surface area is covered with oilcloth figure 2.61. This is notable because it was one of the first incorporations of this material in a piece of high art, and because oilcloth was one of the cheapest materials available. It was hardly an acceptable material for high art; yet, by using it as a primary material, Picasso was making a statement against established social standards of art and possibly the quality and standards of art itself. Furthermore, the oilcloth has the pattern of chair caning printed on it. Instead of painting the chair caning, Picasso is using a real object, the printed oilcloth, to represent the chair. It is slightly ironic and adds dual meanings to the materials within the collage. By pasting the printed oilcloth onto this painting, the skill and technique of actually rendering the illusion has been taken out of the picture by a machine. The use of a machine to create an illusion instigated an important turning point in modern art: this printed oilcloth is an early notification of industrial culture and its incorporation within art.

Another noticeable feature of the painting is the set of letters, ‘JOU’, figure 2.62. In French, this has a couple of different meanings: one refers to the verb ‘to play’, and another possibility is the reference to the French word for newspaper, journeau. Looking at the first reference, one can see that Picasso purposefully painted those letters to imply that the entire painting is a game or meant to be a playful exploration between illusion and reality.
Most of the objects within his painting have dual meanings, which forces the audience to guess at what the materials and meanings really are and to become more engaged and activated with the work. If we consider the letters to represent the word for newspaper, one can literally picture the words on what appears to be a rolled up newspaper on a table. During this time period, newspapers were very important both because they were cheaply available to the masses, and because of their association with the industrial economy. Furthermore, the newspaper was the most reliable method for communication of current events, especially news concerning the war and government of that time. Picasso’s incorporation of newspaper and current or political events grew more and more influential as issues concerning these topics were communicated through the newspaper and as synthetic Cubism was developed further.
Finally, it is important to realize that the painting in its entirety is a table setting, within which Picasso begins to play with the eye and one’s perception of reality. The shape of the painting itself is a hint towards multiple points of view; it is an elliptical canvas frame instead of a true circle. Picasso is suggesting that the audience is looking at the table setting from an oblique point of view. The sections of the tabletop that he decided to paint include objects that have been flattened and taken apart in order to present them from all points of view and suggest an experience of the object over time. An orange and clay pipe can be discerned within the painting, but not as whole pieces or from a single vantage point. Picasso is purposely representing the objects in this way to make it very clear that he is not looking at things from an illusionist point of view. He is trying to represent his entire visual understanding of the tabletop setting, therefore painting the objects as fragments instead of whole objects, and mimicking how someone would experience the object in time.

There is also an important juxtaposition, the relationship between the painted objects and the oilcloth. It gives the audience the ability to imagine that the tabletop is glass, allowing them to look beyond, and see the chair caning. This alludes to the metaphor that the painting is a window to look upon the world. In this way, the chair caning as a literal reference to that window leaves little room for anything to be interpreted or viewed beyond it. The interruption of the chair caning now by the painted, fragmented objects is Picasso’s attempt to break down the illusionist window and ultimately a refusal to represent the world as an impression of reality.

Finally the rope surrounding the entire painting, which Picasso had custom made by a rope manufacturer, is the only real object that acts as it was intended to act. It is binding the entire table top experience within its boundaries and therefore acting as a final play on the words, reality, and meanings within the collage. It is an actual or tactile experience for the audience, in contrast with the illusion of the chair caning and the painted representations of all the viewpoints of the objects on the table. It brings Picasso’s game between pictorial representations and reality full circle.
The closeness of the hand and its relationship with the objects and materials used for collage creates a sense of intimacy between the artist and his work. Objects not typically associated with each other are placed in close proximity, creating situations that encourage interaction. This interaction can be found in the collage works of Ray Johnson, figures 2.70-1. Not only does he form connections between the actual materials by meticulously hand picking his audiences and the materials that he works with, he forms a relationship with his clients through artistic movements, ultimately inspiring an activated triangle among artist, artwork and audience. He typically uses only an outline or profile of the person as a suggestion of their identity. He then uses photographed elements of their face collaged on top of or next to other objects in such a way that it forces the client to become more familiar with themselves and their identity, ultimately questioning who they are. This method is similar to the process found in most collages of finding new combinations of realities that reinforce the idea that “a collagist professes an intimacy with the world...drawn to the details of creation, of life force...”

Through these interactions among client, artist and collage, an unexpected sense of life and energy, and especially a sense of identity, emerge. The juxtapositions between objects and fragments ask the viewer to discover the everyday objects within the piece and thus declare them to be signs and

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symbols of the lived world. At the same time, this discovery elevates the
status of the everyday into the domain of art, and achieves a meaningfulness
described by Kuspit: “The artistic fragments refine the life fragments,
giving them appeal to a more contemplative level of consciousness than
is customary in everyday life, making them safely formal and aesthetically
significant.” Collage represents a “poetry of becoming,” which refers to each
individual element within the collage and its juxtaposition with the entities
surrounding it, which create what Kuspit calls an “ironical individuality,”
or, “the tentativeness of being in the face of its own becoming.” Collage
refuses to establish elements and entities within a larger experience,
creating a contrast for human understanding, and establishing the nature
of unstable life.

One artist who in his collage work exemplifies tactility and “ironical
individuality” is Kurt Schwitters, otherwise known as the one-man art
movement called “Merz.” Since the elements within collages are typically
concrete elements, clipped from newspapers or magazines, posters and
photos, the particles are typically too concrete to disconnect them from
their original context. However, “their very concreteness, combined with
Schwitters’ formal and verbal manipulation of them, creates possibilities for
meanings of a very real kind.” One example of this type of manipulation can
be seen in Schwitters’ art piece, “Grunflec”, figure 2.80. He combines the use
of text, ticket stubs, colors, and most importantly iconic consumer symbols,
to contrast meanings. For example, just barely to the right of the center of
the composition he painted a circle and then spiraled the remaining collage
artifacts from this point in the collage. The piece of collage above this circle
has a word that has been cropped to read, anlage, which in German has
several different meanings: “1. Beginning, foundation, construction plan,
design, outline, plot; 2. Laying out, establishment, plantation, pleasure
grounds, public walks; 3. Investment, invested capital, stock; 4. Natural
aptitude, talent, predisposition; 5. Annexed paper, enclosure; 6. Tax,
duty.” Choosing a word with such depth to its meaning is critical when
considering context and intimacy. When viewing Schwitters’ collage, based

2 Kuspit, p 40.
3 Kuspit, p 43.
5 Nill, p 231.
upon one’s experiences and systematization processes, one may recognize or identify with several different pieces or elements that another audience may not. Generally though, according to Dr. Beth Harris, designer and editor of SmartHistory.org, the power of collage remains: “Pieces of cloth, buttons, newspaper clippings, and other found objects were incorporated into a common union that, by dislocating the elements from their common origins, created a new aesthetic appreciation of both the individual objects and the overall composition.”

As humans we typically try to create a system of understanding and order within which elements are related to an experience that allows us to identify them within that order. Collage undermines this process, leaving the viewer continuously searching for the systematization. It is this perpetual “becoming” within collage, due to its properties of juxtaposition and fragmentation, that animates it and gives it an intimacy and the connection between real life and pictorial elements. “Thus the power of the collage composition rests in the use of novel and many times unexpected materials, juxtaposed so as to elicit psychological response from the viewer.”

Therefore, contextualization and intimacy between viewer and collage becomes very important in order for the meanings to be interpreted.

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6 Harris, Dr B., and Zucker, Dr S. “Cubism & Picasso’s Still Life with Chair Caning. in Mayo Studios [database online]. [cited 03/10 2009]. Available from http://smarthistory.org/about smarthistory.html.

anlage: German, meaning beginning, design, establishment, talent and public walks. Because of its placement within the collage, this word becomes the central and symbolic piece of the collage carrying many different meanings.

Images taken from a cigarette box representing Schwitters concern with the duality between commerce and art. All of the surrounding objects respectfully change the meaning of anlage.

A sample of oilcloth, among other materials, that arose as typical collage material in the high art collage, playing up the contrast in meaning.

The circle with the word "anlage" was placed in such a way that they become the fulcrum which all the other elements rotate around, much like a hand holding a deck of cards. When considering each of the elements in contrast with the word "anlage" they change the meaning of the word or shift the relationship between the audience and the collage, constantly causing new realizations of the collage.

2.80 Kurt Schwitters, Grunflec
030 COLLAGE IN ARCHITECTURE

It has been apparent throughout the study of collage thus far that the relationship between the pictorial surface and the objects pasted upon it has had implications for the representation of space. Collage, as it is known within Synthetic Cubism, becomes a bridge between surface and three-dimensional space. Beth Harris writes, “...here, the implications of Cubist space are manifest,...revealing material form, structure, depth, phenomenal space, and a relationship with the exterior world that is not solely based upon mimetic reproduction, but rather begins to participate in the world of commodified object.”¹ One example, as discussed earlier, is Picasso’s “Still Life with Chair-Caning”, due to the interruption of the graphic surface resembling a tabletop. By the interruption, Picasso is suggesting that the chair exists below the tabletop, yet within view, and therefore the audience can infer a volumetric space supported by some kind of structure since the scene resembles an everyday object, the cafe table. It is well explained by Greenberg who declared, “The fictive depths of the picture were drained, and its action was brought forward and identified with the immediate, physical surface of the canvas, board or paper.”

The relationship between collage and architecture goes further than just implied space upon a surface, however. Collage becomes a compositional and formal tool that an architect, or bricoleur, can use to explore concepts in design and education, such as “overlap, juxtaposition, contrast, analogy, texture and transparency.”² All of these can be found in Picasso’s first Synthetic Cubist collage, as well as in many architectural works today. Further, as media, collage and architecture have each always been means for political and social commentary; the incorporation of the two together can manifest social movements and political statements at any scale. By looking at precedents and methods of collage in architecture, one can begin to recognize the similarities between the two media: first, through the process of joining fragments to express a unified whole; secondly, as a means of communication of an idea using multiple points of view; and finally, as a critique of social events or situations within the city.

¹ Harris, http://smarthistory.org/cubism.html.
2.80 Kurt Schwitters, Merz
After studying the technique of collage and its labor intensive process in relation to the hand, it is easy to see a connection to the general admiration of construction and detail found not only in collage but also in architecture. Unlike a painting, or many other art forms, collage is inherently about the articulation of dissimilar materials towards a common construction. In its simplest form, collage is the manner in which materials or objects are collected, cut, arranged, rearranged and pasted or painted upon a surface. It is the union of many fragments into one whole piece, while still allowing each of the individual pieces to speak to its separate identity through the acknowledgement of the seams and juxtapositions that make collage unique. In a similar manner, architecture as a technique or construction is also concerned with the “...nature of materials and the manner in which they may be joined...[they] share the same ethics of structure and construction.”

The two media are constantly informing each other about the juxtaposition of form and materials, and more importantly through formal compositional matters that are incorporated into the practice of building.

Although not typically associated with collage, Mies van der Rohe seems to have explored its formal implications in his architecture. In contrast to Kurt Schwitters, Mies is associated with a smooth, finished, classical appearance. “Mies’ built structures are also capable, in spite of their dogmatic single-

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1 Harris, http://smarthistory.org/cubism.html.
mindedness towards a prismatic uniformity, of being read as assemblage, as the compression of disparate surfaces into a single coherent object.” Mies was very interested in contrasting materials, as seen at Barcelona Pavilion, figures 3.00-1, where brick, stone, metal, concrete, glass, leather, silk, and wood, can all be found each playing an independent role as well as making a contribution towards the whole of an architectural experience.

One can easily see the relationship between collage and architecture through technique and construction; however, the relation of the two becomes even more intimate within architectural drawing and techniques associated with the compression of space and point of view in plan and elevation. Such drawings specifically present the “...compressed and extruded traces of external reality onto a paper surface, stripped of perspective or spatial depth.”¹ The audience or viewer is left to interpret the spatial qualities of the depicted architecture using clue objects within the drawing such as lineweights, scale figures, and shadows. These elements are congruent with the added effects a collage artist will incorporate in a composition to help unify the objects. Often, an artist will incorporate paint on top of the collage to achieve this effect and further dictate and give hierarchy to the elements on the canvas or paper surface.

Ben Nicholson has used collage extensively in his art and architecture, figure 3.10. His techniques for design are especially apparent in the Kleptoman Cell, the sole function of which was to create a space for the “translation of an object’s function value into its sign value.”² It is through the process of drawing, collaging and re-drawing those ideas and concepts that Nicholson is able to begin to communicate space, hierarchy and structure. Finally, he incorporates program, and is able to create a three-dimensional space that responds to the specifically assigned site, which in turn enables him to visualize construction drawings for the Kleptoman Cell and the Appliance House. He uses only plan, section and elevation in order to communicate solely within the collage realm. It is not until the model or physical manifestation is complete that one is able to truly view the drawings in the same manner that Ben Nicholson does. Prior to the built form, viewers of drawings have only their relationship to the lived-world and memory to pull out forms and figures.

It is this ambiguity and reliance upon context and associations to interpret a meaning that makes his drawings so powerful. This is because instead

¹ Harris, http://smarthistory.org/cubism.html.
² Holmes, p 198.
of using materials or objects that appear to look like woodgrain or other architectural materials, Nicholson uses materials and objects that highlight a mass consumer culture, such as frying pans, blenders, and furniture. Then, through the process of drawing, collage and redrawing, as mentioned above, Nicholson is able to graft or imprint these objects into the collage, without sole recognition of a single object, in order to ultimately honor or encapsulate the object as a symbol. It is obvious that every piece in the architectural collages has been collected by Nicholson for its meaning within the lived world and then placed meticulously to convey this value. The collages and drawings have an inherently rich texture and depth that is very difficult to communicate and transfer into built form. In Nicholson’s case, he ultimately creates the collages in three dimensions: the Kleptoman Cell is an exact replication of the drawing that he produced, figure 3.20-3.30. Although a certain meaningful depth and contextual ambiguity is lost when these drawings collage objects are directly interpreted into materials.

There are many formal implications within collage that are applicable to architecture. Collage is an exciting design tool that allows architects to
integrate qualities such as juxtaposition, fragmentation, and transparency, for example, within their designs and built forms. These methods are typically more successful than the one to one correspondence of collage to architecture that Nicholson experimented with. Le Corbusier was an early exponent of collage, becoming “that great straddler...[by whom] objects and episodes are obtrusively imported and, while they retain the overtones of their source and origin, they gain also a wholly new impact from their changed context.”


Finally we can look at architecture and collage at the scale of the city and more specifically, Colin Rowe and Fred Koetter’s analysis in their book, *Collage City*. The metaphor of the fragment, as seen in both architecture and collage, often takes on a multiplicity of meanings, and “the idea of the fragment in collage came to stand for a society in transition, at the threshold of modernism.”5 At the scale of the city, Colin Rowe and Fred Koetter express these concepts analyzing urban patterns as collisions of incomplete, fragmentary visions, and drawing important social, political and compositional ideas from this condition. “Rather than reflecting the urban detritus of the contemporary city (a la Schwitters),... Collage City rarefies and abstracts its sources, flattening and distilling the meaning of the city to a heterogeneous set of Nolli plan diagrams, as positive urban volumes and negative architectural infill.”6 In this way, much like in collage paintings, the buildings begin to act as pieces of texture and as symbols of their meaning within the lived world. At the same time, they represent a multiplicity of viewpoints since the audience is intimately familiar with buildings and the city. According to Rowe and Koetter, “The collage approach permits a return to traditional forms, while simultaneously declaring same to be within the province of the avant-garde.”7 This approach allows for recognition of substantial moments and signifiers to be re-sampled in a new space and place ultimately changing the perception of that moment

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5 Kurkowski, http://www.rasa.net
6 Rowe, p 282.
7 Rowe, p 285.
into an actualization of the object. It is within an avant-garde exploration that collage is continually realized as an exciting and energetic approach, appropriate for application upon a city and in an architectural setting; especially since the city and architecture both depend on the cultural and lived world reality embodying that energy. It is ultimately the action of the hand and the operation upon the city and the lived world, that create this energy in combination with devious means that make collage truly unique and an exciting process for design and representation in our time.

3.50 Plan of Versailles, from Colin Rowe and Fred Koetter, Collage City
“Collage is simultaneously innocent and devious,”¹ and therefore becomes an appropriate material and method to apply to a thesis that hopes to be an urban instigation and social catalyst for interaction among cyclists and bike riders. As a means to bring all the disparate groups of cyclists throughout the city together, and to accommodate a range of cycling related activities, collage serves as a method of analysis and design. Besides its unifying properties, collage has a number of characteristics that I have explored through experimental compositional processes and methods for design as part of this thesis project. Much like Picasso’s “Bull’s Head” created in 1944, in which he transformed a bicycle seat and handlebars, this thesis proposes a similar process and experience, asking its audience to remember former functions and values, shift contexts, and recycle meanings. Through several experiments, I have explored these ideas, continually collaged with the bike and cycling, and with program and site considerations. This thesis design proposes a node of activated space worthy of a unified bicycling culture and community.

¹ Rowe, p 140.

4.00 Picasso’s Bull’s Head
Beginning with simple contrast and juxtaposition, existing at the heart of collage, it was important to explore how meaning could be recycled and shifted to represent a different entity. This led to the discovery of specific action words that allowed meaning to be altered and transformed. Words such as rotation, tilt, and collision allowed several different objects to translate their meaning across contextual borders and ultimately take on new connotations. Using images of natural objects such as bones, feathers, and rock, figure 4.00, that exist concretely in nature and which an audience can readily and undeniably react to, the first experiments with collage forced one’s mind to adapt to the new meaning, solely through juxtaposition. This interaction between audience and object is the basis for an exciting and activated architectural experience and becomes an important aspect of the cycling center’s success.

It became obvious that meaning could be re-sampled; however, it was also important to discover whether or not the identity of an object and its meaning were retained so that it could shift back to its original meaning or if it became grafted into the composition as a whole. Experimentation with identifiable objects such as dishwashers, door handles, and light fixtures, along with an abstracting method that included Xeroxing, scanning and copying, allowed manipulation of objects and an analysis of these metamorphoses, figure 4.10. These objects, typically found around the house or in our world, were collaged in unique ways that questioned their purpose. For example, figure 4.20 uses images of door handles and a washing machine, however they are not being exercised for, nor do they allude to, their purpose. This new realization forces the audience to question their life world, and to discover new meaning possibilities associated with the object.

It was also important to push the boundaries of identity and find the point that allows implicit and explicit expressions of meaning to collide. In part analyzing the process of artist Ben Nicholson, it became evident that these objects (the door handle and dishwasher), could essentially be stripped of identity and begin to embody the essence of the object instead of just representing it. Through the cutting and slicing, arranging and rearranging of objects, Nicholson ultimately represents or glorifies them through his process. He then draws and redraws the elements in order to graft the objects into his architectural drawings, to the point where they can not be
recognized, but are instead emulated. Shown in figure 4.30-4.32, the door handles and dishwashers ultimately disappear, allowing the meaning to succumb to a different level of interpretive activity between the audience and the artwork.

Continuing to explore the former functions and values of objects, it was important to introduce the bicycle into the experimental process. After disassembling the bike it was documented and became an inventory of possible collage objects. It was important to give hierarchy to certain objects and offer scale adjustments that reflected these hierarchy decisions. After the inventory of parts was created, figure 4.40, it was necessary to explore another area of collage, the element of surprise situated within the juxtaposition of certain objects. I asked two colleagues to create floor plans with the bicycle parts as the collage medium; the two different individuals created interesting juxtapositions and forms exploiting the element of surprise within collage, figure 4.50-4.51. Then using pieces and juxtapositions of the floor plans, a section that could theoretically represent the velodrome and its programmatic arrangements, figure 4.52. This was in part a search for a compositional and tectonic language or genetic code that might become the cycling center. This code would eventually transform into an inventory for construction details and an architectural language that would inform the design of the bicycle center.
The ‘floor plans’ above and below were created by fellow students. This was done as a means to relinquish control and power over the collage, and in order to experience the element of surprise that exists between audience and artwork the moment when the collage is revealed. These floor plans then became “found objects” from which I could create a diagrammatic section for the velodrome, figure 4.52.
Up to this point, the experimental process was developing only the innocence of collage, yet as a cycling center in Cincinnati, it would need to exploit the devious nature of collage as well. In order to help the facility inspire a greater community involvement within Cincinnati, supported by diverse public spaces that allow for engagement to occur, another collage was created from some of the iconic public spaces in the city: the two sports stadiums along the riverfront, Union Terminal, the P&G garden, and Washington Park. These spaces were all chosen for specific reasons concerning their meaning and associations within the greater Cincinnati culture. This ‘private-public’ collage has since gone through several different iterations to optimize formal composition, figure 4.60. The juxtapositions that were discovered began to imply helpful spatial properties and programmatic opportunities, which continued the discovery process for the design of the Velodrome and Cycling Center.

As shown in figures 4.53-4.56, the collage of iconic public spaces was made up of many “found objects”, figure 4.70. These were chosen because of the public importance that each space possesses by virtue of its form, function, history or its problematic public-private nature. For example, the P&G Parks, possibly one of the largest green spaces in Cincinnati, is
4.70 Private/Public Collage
zoned only for the P&G employees. Another example is the stadiums lining much of the real estate along the city’s riverfront is supposedly a public place. However, in order to enjoy the activities that go on inside their walls, one must purchase a ticket for admission. Even Washington Park is often policed by city officials because of its reputation, making it a semi-public urban space.

An initial design decision was to situate the velodrome itself underground, creating a connection between the cycling communities and the old subway station and circulation plan for the city. Recessing the velodrome into the earth also leaves the site surface as an urban playground, with open space and visual connections instead of a built form that would disrupt circulation and views. A second major design strategy was to create dynamic paths bridging the velodrome and bringing people down into the center space. These are crucial to the connection between the cycling center and the city as a whole.

Finally, I have created niches or enclaves within the complex for the different cycling personalities, while maintaining constant visual connections among them, and also with the race and track and, most importantly, the finish line. The event and experience of watching a race is part of the excitement and a major element for instigating user interaction throughout the site and ultimately the city.

Ultimately, it is the people and activities within the Velodrome and Cycling Center that will create and inspire meaning and ultimately drive the experiences surrounding the center, with the bicycle being the common denominator. The design ensures that the center will become a truly public auditorium that all cyclists and bicycle riders can feel comfortable in and identify with. It is the interaction among elements and activity zones, such as the repair shop, cafe, and Velodrome, that will provide a collaged juxtaposition and spontaneous excitement to the space, and that will help instigate other spaces around the city to represent a more multi-cultural landscape.
The two main components of a successful collage are the canvas and the found objects. When working with an architectural instigation the canvas and found objects can exist within the selected site, where the land can provide the same opportunity for a bricoleur to perform operations upon the world. However, the exciting part of collage comes from the collision and juxtaposition of two or more unlikely objects. Depending on the site selection, this juxtaposition can come with any variance of found objects, including elements of history, time, terrain, landscape and of course existing buildings.

The site for the Veloci-Nati Velodrome and Cycling Center, figure 5.00, is located near the intersection of Linn Street and Central Parkway, figure 5.10. The following diagram, will explain the choice of this site and how these attributes support the design of the cycling center. For this thesis it was also important to study and analyze the movement of the bicycle within the urban setting and in comparison with the existing Bike Plan for the city. Shown in figure 5.00 is the most current plan that exists for cyclists to follow in Cincinnati.

5.00 A view looking to the north-east corner with the existing buildings.
Figure 5.11 describes the different zones surrounding the site existing at varying scales; such as the residential areas that create a very fine grain, which is in contrast with the industrial zone near I-75 and the open park just to the West of the site. It is also important to notice that to the northeast the landscape rises quickly and is also covered with trees due to the inability to build on the steep land. The slope of the hill gives the residents on the hill a great view of the Velodrome and a visual link to the activity and paths in the Veloci-Nati Cycling Center.
The suggested route locations, figure 5.10, reflect the fact that Cincinnati has several obstacles that are not cycle friendly. The first is topography: Cincinnati has a significant grade change between the downtown basin and the surrounding neighborhoods, so traveling between the two quickly and effortlessly proves to be difficult. The seasoned cyclist will find no issue with this, however for the leisurely group of cyclists who ride possibly twice a year, this is a major obstacle. Many of the suggested routes for cyclists circumvent the hills in an indirect manner. Another obstacle facing Cincinnati cyclists is the large bodies of infrastructure such as Interstate-75 and the Queensgate Rail Yard. Both of these have become the border between the east and west sides of Cincinnati and have become very difficult and dangerous to cross. Therefore, the route map only provides two suggested routes across these elements due to safety and functional issues. Apart from these constraints, however, one road that provides complete north-south access throughout Cincinnati with relatively low-grade change and a decent amount of safety for cyclists is Central Parkway. This road becomes a major thoroughfare for cyclists from all over Cincinnati, making it very important to locate the Veloci-Nati site near this route. Central Parkway serves as a vital vein throughout the city allowing people from downtown to transverse the many Cincinnati neighborhoods going north from the river. At this scale it is possible to see how the different topography in the city affects the roads and the preferred bike routes in Cincinnati.

Currently, according to the most recent commuter poll the majority of cyclists are coming from the east side of Cincinnati, in part because of the Interstate-75 and Rail Yard obstacle, but also because of the terrain levels. It is for this reason that a cycling center for Cincinnati should be located closer to the west side, giving equal access to all of Cincinnati, and encouraging interaction between these two groups of riders. It was also crucial to select a site that could support a large program entity such as the Velodrome. The track alone requires approximately 45,000 square feet; the site must also support an equally significant amount of people, movement, and other activities. Historically, there is a subway station located at the intersection of Central Parkway and Linn Street and the city has plans to use Central Parkway as a main artery for new Streetcar lines.
5.20 Diagram showing prevalence of East-side riders.

5.30 Cincinnati's subway plan with site vicinity overlay.
As a place to bring together the four different cycling groups in the Cincinnati area, the Veloci-Nati Velodrome and Cycling Center will provide programmatic services that support the wants and needs of each of the different groups. This diversity will help bring all the different groups and skill levels together in an atmosphere that is not daunting or overwhelming. Apprehensive cyclists, especially from the leisure rider group, often stay away from intense cycling atmospheres because they are not as skilled and therefore feel unsafe in that environment. Likewise, the highly trained athlete sometimes does not want to have to worry about this type of rider when they are trying to focus and train for an event. However, the Veloci-Nati Velodrome and Cycling Center will provide a niche for every individual to feel comfortable. At the same time, there will also be a common focus and view point onto the velodrome for racing events. Each group and programmatic activity will be able to watch the race as a shared experience and ultimately celebrate the bicycle, their shared love of cycling and the implications that alternative transportation will have within the city. The four main groups or types of riders have distinct needs, as follows:

The leisure rider is an individual who doesn’t ride a bicycle often, and typically just rides for fun with friends and family. The leisure group needs a supportive environment and a place where they can learn about the bike and how to safely ride a bike in the urban environment. The programmatic activity that best suits this group consists of:

- LECTURE HALL
- CONFERENCE ROOM
- SMALL MEETING ROOM
- CHILDREN’S TRAFFIC SCHOOL
- OFFICES FOR GROUPS
- BAR
- RESTROOM
- STORAGE
The fixie, or production identity would benefit best from a mechanical shop and repair center. The repair shop is meant to be a collaborative space full of parts and tools for individuals to use. It will be fully equipped with the machines and instruments that cyclists need in order to construct and maintain their bikes. It will include the supporting spaces identified in figure 6.01.

Another programmatic activity that is occurring within the Veloci-Nati Velodrome and Cycling Center is supportive of both the necessity group and the performance group. This group is concerned with getting exercise and quickly changing clothes in order to get to and from work by bike, and has needs summarized in figure 6.02.
Finally, the largest programmatic space in the cycling center is the Velodrome requiring roughly 45,000 square feet. This is in support of the performance cycling group and provides the unifying programmatic activity for the entire cycling center. This is because it becomes an exciting event that every group can participate in and that adds visibility to the overall culture of cycling. This space can act as the signifier or permanent identity for the cycling center due to its size, and its memorable shape, construction and activity. Its programmatic needs are shown in figure 6.03.
Shown above is the first development in the design of the Veloci-Nati Cycling Center. Using the ‘Private/Public’ collage as a compositional driver, (figure 4.70), the building forms were pushed, pulled, rotated or tilted to form the cycling center built space. Some objects are treated as paths while others act as programmatic space supporting the activities of the Velodrome.

A very important aspect of the Veloci-Nati Cycling Center is the ability to visually connect the different spaces. As shown in the section above, the various spaces have views across the Velodrome and onto each other. The most important visual connection is with the velodrome itself, especially at the finish line. Much like at a horse race, everyone is out of their seats to partake in the enormous energy that surrounds the finish line.
The products of continuing design development, the plans above and below represent a more cohesive and functional plan. There is a hierarchy of objects and spaces as well as a more fluid circulation throughout the site and ultimately throughout the city. This design a more explicit intention by including ramps and bridges that span surrounding roads such as Central Parkway and Linn Street. This helps to create a permanent identity and presence within the city outside of the velodrome itself.
This paper collage model reflects the spatial qualities of the design of the Veloci-Nati Cycling Center. Certain paths and bridges are soaring overhead while others dive down into the velodrome and park below. The ground has been manipulated to become an undulating surface that allows for play and public activities much like a city park. The programmatic spaces are concentrated to the north-west corner and suspended above the track in order to allow for full visibility of the velodrome, the races, and the finish line. The paths will help create an activated space within the velodrome and around the site, which in turn will raise awareness for cycling, cultural interchange, and sustainability in Cincinnati.


Harris, Dr B., and Zucker, Dr S. “Cubism & Picasso’s *Still Life with Chair Caning*.” in *Mayo Studios [database online]*. [cited 03/10 2009]. Available from http://smarthistory.org/aboutsmarthistory.html.


