Public Comments

January 16, 2015

Deseret Romero

From: notification@pima.gov
Sent: Thursday, January 08, 2015 3:07 PM
To: bondinfo
Subject: Feedback Form 2015-01-08 03:07 PM Submission Notification

Feedback Form 2015-01-08 03:07 PM was submitted by Guest on 1/8/2015 3:07:01 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Mac
Last Name	Hudson
Email	mac.hudson@gmail.com
Address	
City	
State	AZ
Zipcode	
Message Subject	support for bond items
Comment	I support Neighborhood Reinvestment, Housing, Living Streets/walkability and Park improvements especially Sentinel Peak park. Thank you.
Response requested	Yes
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Thursday, January 08, 2015 1:54 PM
To: bondinfo
Subject: Feedback Form 2015-01-08 01:54 PM Submission Notification

Feedback Form 2015-01-08 01:54 PM was submitted by Guest on 1/8/2015 1:54:14 PM (GMT-07:00) US/Arizona

Name	Value
First Name	James
Last Name	Heidke
Email	jheidke@desert.com
Address	3126 E Linden St.
City	Tucson
State	AZ
Zipcode	85716
Message Subject	Pima County Bond Advisory Committee re. pedestrian improvements
Comment	I am writing in support of the Living Streets Alliance and the coalition of neighborhoods, organizations, and businesses that have worked on the Pedestrian Safety & Comfort campaign addressing the need for better walking conditions in the greater Tucson region. I walk along the Rillito River Park four days a week and very much enjoy doing so. However, one day a week I walk to & from my job and am forced to walk in streets most of the 2.9 miles each way. While I don't expect those streets to become more pedestrian friendly, I know that they are representative of streets in the greater Tucson area. We consider ourselves a bicycle friendly community -- now we need to step up (no pun intended) and make it easier to get around on foot as well. Thank you for considering my message.
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Thursday, January 08, 2015 2:51 PM
To: bondinfo
Subject: Feedback Form 2015-01-08 02:51 PM Submission Notification

Feedback Form 2015-01-08 02:51 PM was submitted by Guest on 1/8/2015 2:51:23 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Eileen
Last Name	DeBellis
Email	mcmillanst@q.com
Address	1221 W. McMillan St.
City	Tucson
State	AZ
Zipcode	85705
Message Subject	Neighborhood Walkability Improvement
Comment	To whom it may concern, My neighborhood has not undergone any improvements in very long time. We have 3 to 4 schools within walking distance from each other. The kids don't walk, the elderly don't walk, the handicapped don't walk. There are few crosswalks, very few side walks, flooding problems, limited lighting and horrible pot hole problems. This area of town is horribly neglected because it sits on city-county boundaries. Many areas around us have been improved but the Flowing Wells and Roger area is constantly missed. We are an aging area that could use some attentions for the sake of the children, walking to school or the park, for the elderly to be able to get out and feel safe, for the disabled who I see walking or riding in wheelchairs down the middle of the street because there are no sidewalks or the sidewalks are in terrible condition. Please remember and consider the Flowing Wells neighborhoods when making decisions about this bond issue. Thank You.
Response requested	No
Referred_Page	http://webmail.q.com/zimbra/mail

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Thursday, January 08, 2015 11:29 PM
To: bondinfo
Subject: Feedback Form 2015-01-08 11:29 PM Submission Notification

Feedback Form 2015-01-08 11:29 PM was submitted by Guest on 1/8/2015 11:29:03 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Forest
Last Name	Replogle
Email	forestbrep@live.com
Address	407 E. Drachman St.
City	Tucson
State	AZ
Zipcode	85705
Message Subject	Living Streets Alliance bond proposal
Comment	Hello, I moved to Tucson in May to attend grad-school at the U of A, and I rely on bike and bus or streetcar transit for my travel through the city. I am a student of City Planning, and I support the plan because I believe it is based on solid research and will be a sound investment for the City. It will most of all save lives and improve health by encouraging walking and making it safer to do so, but also by improving walkability and the pedestrian experience, it makes good economic development sense as well. Thank you for your consideration.
Response requested	No
Referred_Page	http://www.livingstreetsalliance.org/our-work/campaigns/pedestrian-safety-comfort-bond-proposal-faq/

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Thursday, January 08, 2015 6:45 PM
To: bondinfo
Subject: Feedback Form 2015-01-08 06:45 PM Submission Notification

Feedback Form 2015-01-08 06:45 PM was submitted by Guest on 1/8/2015 6:45:15 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Kate
Last Name	Van Roekel
Email	katevanroekel@gmail.com
Address	2625 E EDISON ST
City	TUCSON
State	AZ
Zipcode	85716
Message Subject	Please approve the Pedestrian Safety & Comfort Proposal
Comment	To whom it may concern: As a citizen of Pima County, I urge you to approve the Pedestrian Safety and Comfort Proposal. Something must be done to address the number of pedestrians injured and killed by vehicles in Pima County. We need infrastructure improvements, enforcement and education. We need continuous, well-maintained sidewalks. We need safe places to cross busy roads. By passing the Pedestrian Safety and Comfort Proposal, you can prevent pedestrian fatalities and injuries, and create a safer, healthier, and greener county.
Response requested	Yes
Referred_Page	https://www.facebook.com/

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Thursday, January 08, 2015 5:08 PM
To: bondinfo
Subject: Feedback Form 2015-01-08 05:07 PM Submission Notification

Feedback Form 2015-01-08 05:07 PM was submitted by Guest on 1/8/2015 5:08:00 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Diahn
Last Name	Swartz
Email	diahns@yahoo.com
Address	519 E. Roger Rd
City	Tucson
State	AZ
Zipcode	85705
Message Subject	Support for Pedestrian Improvements
Comment	I want to register my support for including a program for pedestrian improvements in the next Pima County bond initiative. The Living Streets Alliance has done an impressive job preparing a program of regional pedestrian improvements. As a region, we need to think beyond motor vehicle transportation in order to be a destination that people want to come to. Pedestrian improvements are so important in so many ways -- safety, livability, and economic development. Please include the Living Streets Alliance Pedestrian Safety and Comfort Proposal in the next bond initiative.
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: Heather Christine Lent <hclent@email.arizona.edu>
Sent: Sunday, January 11, 2015 5:34 PM
To: bondinfo
Subject: Tucson bike center!

Hi! I am a graduate student at US who, like many people in Tucson, loves to bike. I think a bike center would be a great asset to Tucson, not only used by locals, but also as an attraction for other cyclists to come to Tucson and enjoy our unique bike culture.

Thank you for your time!

- Heather Lent

Deseret Romero

From: notification@pima.gov
Sent: Monday, January 12, 2015 11:36 AM
To: bondinfo
Subject: Feedback Form 2015-01-12 11:35 AM Submission Notification

Feedback Form 2015-01-12 11:35 AM was submitted by Guest on 1/12/2015 11:35:46 AM (GMT-07:00) US/Arizona

Name	Value
First Name	Sue
Last Name	Sanders
Email	suesanders50@gmail.com
Address	634 E Mabel St
City	Tucson
State	AZ
Zipcode	85705
Message Subject	Pedestrian Safety & Comfort Bond Proposal
Comment	Hello - I urge you to pass this bond proposal onto the citizenry for their vote. This vision will reap great long time benefits for our way better than average home town. Thank you for your best consideration in this important matter.
Response requested	Yes
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Monday, January 12, 2015 3:17 AM
To: bondinfo
Subject: Feedback Form 2015-01-12 03:17 AM Submission Notification

Feedback Form 2015-01-12 03:17 AM was submitted by Guest on 1/12/2015 3:17:24 AM (GMT-07:00) US/Arizona

Name	Value
First Name	Mary
Last Name	Reynolds
Email	marycycle29er@gmail.com
Address	5611 E Silver St
City	Tucson
State	AZ
Zipcode	85712
Message Subject	I support Pedestrian Safety
Comment	I am writing to support the Pedestrian Safety and Walkability proposal from Living Streets Alliance. It is critical that Pima County fund sidewalks, crosswalks, and other infrastructure for people who walk in our community. Better sidewalks may encourage more people to walk to the nearest bus stop and ride the bus, thus reducing car traffic and pollution from individual cars. In addition, safer sidewalks will encourage parents to let their children walk to school instead of being driven.
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Sunday, January 11, 2015 9:02 PM
To: bondinfo
Subject: Feedback Form 2015-01-11 09:01 PM Submission Notification

Feedback Form 2015-01-11 09:01 PM was submitted by Guest on 1/11/2015 9:01:45 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Kristin
Last Name	Wisneski
Email	blumneski@gmail.com
Address	135 N. Hillside Dr.
City	Tucson
State	AZ
Zipcode	85745
Message Subject	Pedestrian Safety & Comfort Bond Proposal
Comment	As a Menlo Park resident, I am especially interested in safety of pedestrians on St. Mary's. It is a common occurrence to see individuals or groups of people, sometimes including small children, walking across the road. While some people do use the pedestrian crossings, there are many many people who do not. This happens at all times of the day: early morning when the sun is rising and glare is the worst, through the day until nighttime when visibility is low. Menlo Park's walkability has been increased by the usage of Tumamoc Hill and the Mercado San Agustin. This bond will further increase the likelihood of neighborhood walkers, by placing the infrastructure necessary to support safety walkways. Please support this bond proposal! Neighborhoods like Menlo Park need connectivity to survive and thrive. Thank you!
Response requested	Yes
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Saturday, January 10, 2015 3:15 PM
To: bondinfo
Subject: Feedback Form 2015-01-10 03:14 PM (1) Submission Notification

Feedback Form 2015-01-10 03:14 PM (1) was submitted by Guest on 1/10/2015 3:14:36 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Niki
Last Name	vonHedemann
Email	niki.rvh@gmail.com
Address	1710 E 10th St
City	TUCSON
State	AZ
Zipcode	85701
Message Subject	Pedestrian Safety and Walkability Proposal
Comment	I am writing to show support for the Pedestrian Safety and Walkability Proposal. The accessibility of parts of Tucson to methods of transportation beyond cars (bikes, streetcar, buses) are part of the reason I love living here. Walking is a key link in this alternative transportation network. The infrastructure for safe and enjoyable walking avenues is still lacking, however, and this bond would work towards correcting that. It is key to keep pedestrians safe and to encourage exercise and easy access.
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Saturday, January 10, 2015 3:15 PM
To: bondinfo
Subject: Feedback Form 2015-01-10 03:14 PM Submission Notification

Feedback Form 2015-01-10 03:14 PM was submitted by Guest on 1/10/2015 3:14:30 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Margot
Last Name	Garcia
Email	mgarcia@vcu.edu
Address	3100 E. Calle Portal
City	Tucson
State	AZ
Zipcode	85716
Message Subject	Pedestrian Safety and Walkability Improvements
Comment	Too many pedestrians are getting killed and we need to improve pedestrian safety. We want a walkable community where we don't have to get in the car in order to cross the street. My neighborhood has no sidewalks. We walk on naked streets where bicycles, pedestrians, cars, and trucks all learn to use the same 20 feet of asphalt area. On Country Club along our property there is no sidewalk, only a dirt right of way used by bicycles and pedestrians. This is not safe. We need major arterials that are not so wide that pedestrians fear for their lives, even when crossing at stop lights. I will only vote for bonds that include money for multi-modal transportation solutions - that provide for pedestrian improvements, bicycle improvements and transit improvements.
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From:	notification@pima.gov
Sent:	Saturday, January 10, 2015 2:34 PM
To:	bondinfo
Subject:	Feedback Form 2015-01-10 02:33 PM Submission Notification

Feedback Form 2015-01-10 02:33 PM was submitted by Guest on 1/10/2015 2:33:30 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Ronald
Last Name	Greene
Email	ronaldgreene7612@comcast.net
Address	7612 W. Copper Crest Place
City	Tucson
State	AZ
Zipcode	85743
Message Subject	Bicycling Center
Comment	I believe it long overdue that the nation's Gold Star bicycling area should have a bicycling center exactly like the one proposed. It would do uncalculable good, not only for the native population, but bring enthusiasts from far and wide to our area to enjoy this beneficial pastime. Sincerely, Ron Greene
Response requested	No
Referred_Page	http://webcms.pima.gov/cms/one.aspx?portalId=169&pageId=7390

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Saturday, January 10, 2015 2:16 PM
To: bondinfo
Subject: Feedback Form 2015-01-10 02:15 PM Submission Notification

Feedback Form 2015-01-10 02:15 PM was submitted by Guest on 1/10/2015 2:15:31 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Wes
Last Name	Oswald
Email	doobiedoowah@yahoo.com
Address	249 n. westmoreland ave.
City	tucson
State	AZ
Zipcode	85745
Message Subject	Pedestrian Safety & Comfort Bond
Comment	I support the Pedestrian Safety & Comfort Bond Proposal and I'm writing to ask that you vote for it. I live in the Menlo Park Neighborhood just west of Downtown and I am excited to see that improvements on the bond include both Grande Avenue and St. Marys Road, two major streets in the neighborhood. I ride my bicycle daily for work and general transportation and I love the idea of a safer and more beautiful St. Marys Road especially. Currently, this is one of the ugliest streets in town with nary a shade tree anywhere between Grande and Silverbell, despite the fact that this is a corridor used by many cyclists as well as people walking to and from any of the grocery stores or restaurants on this street. I have to cross St. Marys Road each day on my way to work as a teacher at Manzo Elementary School, which frequently feels like a dangerous feat, especially around 5:00 p.m. Please consider the walkability of our city and region and vote for this bond proposal to pass. Thank you so much!
Response requested	Yes
Referred_Page	https://webcms.pima.gov/cms/One.aspx?portalId=169&pageId=21545

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Saturday, January 10, 2015 11:43 AM
To: bondinfo
Subject: Feedback Form 2015-01-10 11:42 AM Submission Notification

Feedback Form 2015-01-10 11:42 AM was submitted by Guest on 1/10/2015 11:42:43 AM (GMT-07:00) US/Arizona

Name	Value
First Name	Janet
Last Name	Schwartz
Email	janschwartz4@gmail.com
Address	
City	Tucson
State	AZ
Zipcode	85711
Message Subject	
Comment	Please support the Pedestrian Safety and Walkability Proposal. Quality of life and safety should be a cornerstone of our community. Being able to get around on foot should not be fraught with danger. Thank you.
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Saturday, January 10, 2015 8:12 AM
To: bondinfo
Subject: Feedback Form 2015-01-10 08:12 AM Submission Notification

Feedback Form 2015-01-10 08:12 AM was submitted by Guest on 1/10/2015 8:12:15 AM (GMT-07:00) US/Arizona

Name	Value
First Name	Sage
Last Name	Goodwin
Email	sagewan@aol.com
Address	348 S Grande Ave
City	Tucson
State	AZ
Zipcode	85745
Message Subject	Pedestrian Safety and Conviviality in N Grande Congress Barrio Convento Cushing Area
Comment	I am taking this opportunity to comment on the Pedestrian Safety and Comfort Bond Proposal the Pima County Bond Advisory Committee is currently considering. I appreciate the opportunity to comment here as I was not able to attend the January 9th 8am meeting at Riverpark Inn assembled to receive public comments on the proposal. Firstly I welcome investments in pedestrian improvements in the county, especially when the improvements leverage on ongoing or proposed private sector developments, so that, combined, the public gets the most benefit from both. I am in support of the Grande Avenue improvements included in the scope of the bond proposal, though I had hoped that it would include Grande Avenue south of Congress Street. Pedestrian connectivity between that area and downtown Tucson, and between the area west of Grande Avenue and South of Congress Street would be a very good place to also develop "pedestrian safety and comfort" improvements as this would greatly enhance quality of life to residents and further contribute to the success of current and upcoming private and public developments in the area. With the wonderful recreational and historically significant Sentinel Peak as part of this area, and the potential to develop walking routes into the open space area there, it is imperative that Grande Avenue south of Congress Street and the adjacent Barrio del Convento and the south end of Menlo Park becoming pedestrian friendly, both with safety improvements and by way of adequate shade and aesthetic enhancements. This would make traveling by foot on Grande Avenue to and from the Mercado district and to and from Menlo Park south of Congress an attractive and appealing experience. I suggest beginning this effort by concentrating on Grande Avenue south of Congress as this is a particularly treacherous stretch of street for pedestrians, lacking sidewalks or shade in a zone heavily trafficked by vehicles. Further implementing already studied and recommended vehicular traffic calming measures tied to pedestrian oriented improvements providing, shade, safety, and other amenities, would support development of the area into a pedestrian destination and increase accessibility to the Sentinel Peak area, the birthplace of Tucson. I think adding the area of Grande Avenue south of Congress Street to the bond proposal will leverage on the assets in the area, both

those already developed in the Mercado district and at Mission Garden, and those yet to come. Thank you.

Response requested Yes

Referred_Page

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Tuesday, January 13, 2015 12:15 PM
To: bondinfo
Subject: Feedback Form 2015-01-13 12:15 PM Submission Notification

Feedback Form 2015-01-13 12:15 PM was submitted by Guest on 1/13/2015 12:15:18 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Randy
Last Name	Garmon
Email	randallgarmon@gmail.com
Address	1321B E. Allen Road
City	Tucson
State	AZ
Zipcode	85719
Message Subject	Pima County Bond Committee / Pedestrian Safety & Walkability proposal
Comment	RE: Pedestrian Safety & Walkability proposal I was in attendance at the January 9 Bond Committee meeting, and wish to share a few of my thoughts with members of the Committee. I thought you made a wise decision to table the final vote until more information is made available concerning other possible sources of funding. It is clear to me, shown by the number of citizens in attendance and letters of support from community organizations, that there is a strong community-wide desire for safer roadway infrastructure, specifically for pedestrians and cyclist. Sadly, I read in Saturday's (Jan. 10, 2015) Arizona Daily Star of another pedestrian fatality (as well as another cyclist hit a few days earlier … Said the driver, "I didn't see him.") Following is a link to an article discussing two community demographic-groups that have an interest in and support safe walkability infrastructure: http://www.citylab.com/commute/2014/11/as-boomers-age-walkable-cities-become-more-important/382190/ I am retired, so am able to enjoy the luxury of commuting via walking or cycling (whenever practical … distance and/or weather may cause me to drive). A few traits of Pima County/Tucson vehicle-drivers I see are: 1) pedestrians and cyclist are typically viewed as second class citizens by the vast majority of drivers, and 2) the current car-centric emphasis in roadway design leads to drivers exceeding the speed limit on most roads. I also experience this "speed" effect when driving, for in my old age I find myself driving much like my Dad drove … cautiously and within the speed limits … somewhat disconcerting to realize that one is becoming one's father. Changing attitudes/traits of drivers, as mentioned in Item 5, is not an easy process. I believe that by including the Pedestrian Safety & Walkability proposal in the Bond Package, you would be instrumental in making drivers aware that: 1) pedestrian safety is an issue that we all need to be aware of, and 2) Pima County is a strong advocate of protecting pedestrians and cyclist. It is quite easy to give lip service in support of safer roads for pedestrians without actually experiencing what pedestrians experience everyday . I would encourage all members of the Committee to take an afternoon and go for a walk along (and across) a few of Tucson's major streets. State law (ARS 28-793) requires that vehicles must stop for pedestrians in crosswalks. Many a time I have stood at a crosswalk and there is rarely a hint of cars slowing to allow me safe

passage across the street. Lest you think this is typical throughout the country … in recent visits to Seattle and Minneapolis cars stop whenever I have stood at a crosswalk. Being used to Tucson traffic, at first I found myself wondering why they stopped. Again, I encourage you all to go out and experience the "pedestrian experience". As Mr. Brian Flagg pointed out, including the Pedestrian Safety & Walkability proposal in the final Bond Package would be a very important element in "selling" the Bond Package, come time for voting. Pedestrian safety is important to we older folks, to the Millennials, to families with young children, and to the general population of citizens who are interested in improving the health of the community as well as the individual … quite a large voting bloc. I encourage you to fund the full $25,000,000 Pedestrian Safety & Walkability proposal. Thank you, Randy Garmon 1321B E. Allen Road Tucson, AZ 85719 (P.O. Box 64788, 85728) 520.732.3651

Response requested No

Referred_Page

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Tuesday, January 13, 2015 9:13 PM
To: bondinfo
Subject: Feedback Form 2015-01-13 09:12 PM Submission Notification

Feedback Form 2015-01-13 09:12 PM was submitted by Guest on 1/13/2015 9:12:59 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Barbara
Last Name	Tellman
Email	barbt2@cox.net
Address	127 E Mabel St
City	Tucson
State	AZ
Zipcode	85705
Message Subject	Neighborhood Reinvestmant
Comment	I support at least $30 million for neighborhood projects in the bond package. Older neighborhoods near the University are especially in need of repairs and improvements.
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Tuesday, January 13, 2015 9:11 PM
To: bondinfo
Subject: Feedback Form 2015-01-13 09:11 PM Submission Notification

Feedback Form 2015-01-13 09:11 PM was submitted by Guest on 1/13/2015 9:11:29 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Barbara
Last Name	Tellman
Email	barbt2@cox.net
Address	127 E Mabel St
City	Tucson
State	AZ
Zipcode	85705
Message Subject	Living Streets
Comment	I support the Living Streets Alliance proposal for full funding in the bond package
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

Pima County Board Advisory Committee
130 W. Congress
Tucson, Arizona 85701

William Zaffer
7428 E. Calle Convidado
Tucson, Arizona 85715
520-307-6560

Bond Members:

1/13/2015

I attended the bond meeting January 9th and heard some very important information, including the need for creating more jobs in Tucson.

I had an opportunity to present an idea, but found that one minute was not enough time, so I decided to communicate green economic ideas in writing. Living in Scottsdale, close to the Tempe Lake, allowed me to view firsthand the wonderful project created by the city of Tempe. Recently, Thomas Friedman made a profound statement on the Charlie Rose show (PBS), his comment was "Green is no longer a 'fad' but a way to grow, build, design, manufacture, work and live ... the smartest, most efficient, lowest cost way – when all the true costs are included – to do things – the defining measure of a country's economic standing – the currency of power."

We have an asset that is located in the heart of the downtown revitalization area. Namely, the Santa Cruz River. Our community could create a smaller version of San Antonio's River Walk or Austin's downtown recreational and commercial river improvements. Here are my suggestions on increasing our tax base and creating jobs, which are two statements I heard repeated many times during the bond meeting.

1. We create a corridor between Speedway and 22nd Street along the Santa Cruz Riverbed. Use with appropriate permits reclaimed water using state of the art low cost purification systems re-directed into the Santa Cruz Riverbed with a recycling system flowing back into the wash.
2. Re-plant Cottonwood trees along the corridor.
3. Require green architectural design, solar and other applications such as co-generation for energy.
4. Start organic farms for raising food in designated areas or on roof tops.
5. Create additional city parks and require new development to design harmony between the built environment and the natural environment.
6. Provide incentives to attract businesses and residential developments along the corridor. Make the corridor a place where people can work, recreate, walk, ride bicycles, and use the light rail.
7. Tucson could start a new sustainable zoning.
8. Encourage businesses to develop new innovative sustainable parks.
9. Support local businesses since money spent locally increases the tax base by 55%.
10. Entice a community bank or local credit union to provide small business loans. Encourage hiring local residents.
11. We could even attempt to have the first of its kind: an Environmental or Sustainability Museum.

Tucson could become and promote itself as a Green City and be part of the new green economic paradigm shift.

Hopefully, some of these ideas will help build a better tomorrow for Tucson. Should you wish to discuss any of these ideas, please contact me.

Respectfully,

William Zaffer

Printed on 100% Post-Consumer Paper

Deseret Romero

From: notification@pima.gov
Sent: Wednesday, January 14, 2015 12:35 PM
To: bondinfo
Subject: Feedback Form 2015-01-14 12:34 PM Submission Notification

Feedback Form 2015-01-14 12:34 PM was submitted by Guest on 1/14/2015 12:34:59 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Julie
Last Name	Armin
Email	msyoolie@yahoo.com
Address	516 E Helen STreet
City	Tucson
State	AZ
Zipcode	85705
Message Subject	Living Streets Alliance pedestrian bond proposal
Comment	Hello, I'm writing to encourage you to approve the Living Streets Alliance's Pedestrian Bond proposal. Tucson needs more walker friendly areas....considering the pleasant winters here, you'd think we would already have these!! thanks, Julie Armin
Response requested	Yes
Referred_Page	

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Wednesday, January 14, 2015 12:32 PM
To: bondinfo
Subject: Feedback Form 2015-01-14 12:32 PM Submission Notification

Feedback Form 2015-01-14 12:32 PM was submitted by Guest on 1/14/2015 12:32:09 PM (GMT-07:00) US/Arizona

Name	Value
First Name	Marlene
Last Name	Kotchou
Email	pkotchou@cox.net
Address	1241 W. McMillan St.
City	Tucson
State	AZ
Zipcode	85705
Message Subject	neighborhood reinvestment
Comment	i have lived on McMillan St. since 1967. It is a great neighborhood. There are many children, again, in the neighborhood who are put in danger from speeding cars and trucks. We have been trying for several years to get speed bumps on the through streets. As yet nothing has been done by the city. There are several places where sidewalks have buckled. Nothing has been done yet even though it has been promised. The 85705 area is one of the lowest income per capita areas in Tucson. We deserve the same treatment as other areas where there is more tax revenue. Thank you.
Response requested	Yes
Referred_Page	https://webcms.pima.gov/cms/One.aspx?portalId=169&pageId=21545

Thank you, Pima County, Arizona

Deseret Romero

From: notification@pima.gov
Sent: Wednesday, January 14, 2015 3:54 PM
To: bondinfo
Subject: Feedback Form 2015-01-14 03:54 PM Submission Notification

Feedback Form 2015-01-14 03:54 PM was submitted by Guest on 1/14/2015 3:54:21 PM (GMT-07:00) US/Arizona

Name	Value
First Name	James
Last Name	Heidke
Email	jheidke@desert.com
Address	3126 E Linden St.
City	Tucson
State	AZ
Zipcode	85716
Message Subject	Pedestrian Safety & Comfort Bond Proposal
Comment	I am writing in support of the Pedestrian Safety & Comfort Bond Proposal's passage. Let voters decide whether these improvements should be funded. We live in a region noted for being bicycle friendly. We also need to create a region where people of all ages and abilities can walk in an environment that is safe, accessible, comfortable, and well-connected.
Response requested	No
Referred_Page	

Thank you, Pima County, Arizona

TUCSON REGIONAL ECONOMIC OPPORTUNITIES

Thursday, January 8, 2015

Chuck Huckelberry
County Administrator
Pima County
130 W Congress St
10th Floor
Tucson, AZ 85701

Dear Mr. Huckelberry,

As the lead economic development organization for Southern Arizona, TREO is pleased to support the proposed Oro Valley Business Accelerator – Collaboratorium. Bioscience is one of our most important regional economic drivers and an accelerator would contribute significantly to our ability to attract and grow bioscience and high tech firms. Such a facility was called for in TREO's ***Securing the Lead: A Comprehensive Focus on Diagnostics Business Growth in Southern Arizona.*** (Attached here for reference, see page 19, "Establish a Community Accelerator")

The proposed facility would leverage the presence of Sanofi and Ventana Medical Systems, both international leaders in bioscience. TREO has been proud to help coordinate this effort and strongly supports the efforts of the various organizations to bring this asset into reality. Investments such as this improve our competitiveness and are essential to the future success of the regional bioscience sector.

Regards,

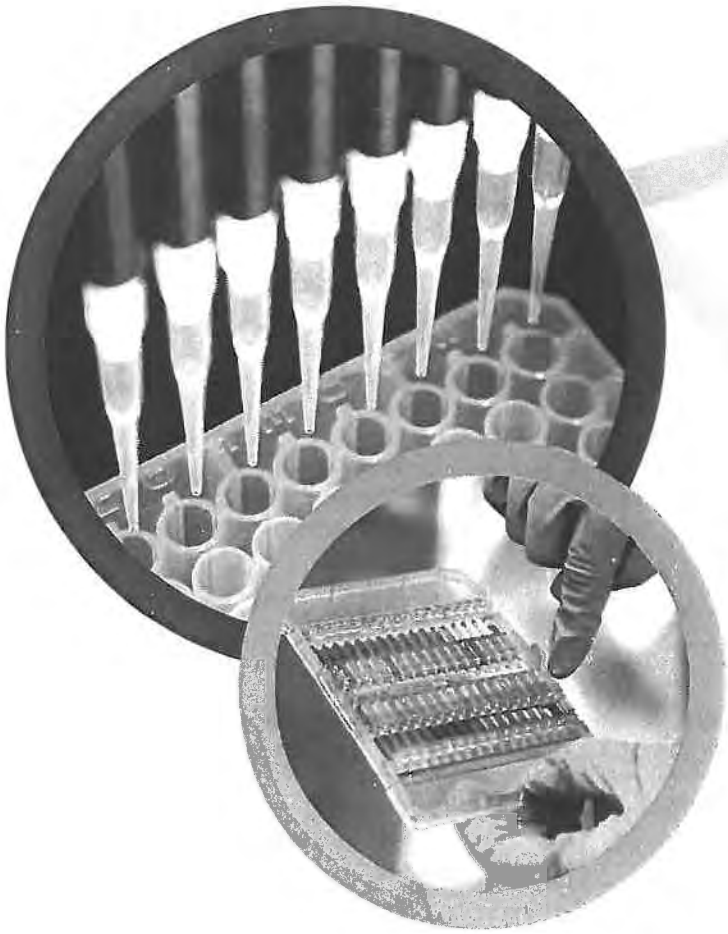
Joe Snell
President & CEO

120 N. Stone Ave, #200
Tucson, AZ 85701
Office: 520.243.1900
1.866.600.0331
Fax: 520.243.1910
www.treoaz.org

Securing the Lead

A Comprehensive Focus on Diagnostics Business Growth in Southern Arizona

March 27, 2013



TUCSON
REGIONAL
ECONOMIC OPPORTUNITIES

Why This New Strategy Was Commissioned

To capitalize on the nation's investment in biomedical research, economic development must be well planned and integrated into an overall strategy for the region. TREO already has a well-established regional economic development strategy called the Economic Blueprint. In developing its long term plan in 2006, TREO analyzed economic data and found that three of the five fastest growing job categories are in the biosciences. Subsequently, TREO identified the bioscience industry as one of its priority areas for recruitment and retention of companies.

However TREO's Economic Blueprint recognized that the field of bioscience is broad, and now in 2013, its strategy must become much more laser focused on the region's strengths and how they coincide with current healthcare trends and opportunities for future commercialization of bioscience products.

> TREO commissioned this report in order to identify specific steps that can advance the region's economic strengths in biomedical sciences.

TREO is now focusing on the diagnostics industry sector as a way to leapfrog community competition for bioscience business growth and establish a strong competitive advantage in attracting, retaining and developing diagnostics companies in southern Arizona. The purpose of this new business development strategy is to further examine the specific fit between diagnostics growth opportunities and regional strengths/challenges, and to make recommendations for how the region can build on those strengths and overcome those challenges, with the greatest efficiency and maximum early return on its investment.

TREO commissioned Dr. Raymond Woosley, former Vice President for Health Sciences at the University of Arizona and Dean of the College of Medicine, and founding President of Critical Path Institute (C-Path), to obtain the guidance and consensus of the region's stakeholders and identify specific steps that can advance the region's economic strengths in biomedical sciences.

Executive Summary

Securing the Lead:

A Comprehensive Focus on Diagnostics Business Growth in Southern Arizona

An Untapped Market Opportunity: The Strength of Diagnostics

The Tucson region has a track record of developing commercial success from its strengths in science and technology. The region's current strengths in aerospace, biomedical research, geosciences and optics form an excellent platform for extension to other scientific areas.

TREO's analysis of the economic opportunities for the region has now identified diagnostics as a focus area for recruitment and retention of bioscience-related companies. As part of the research and fact-finding conducted for this strategy, over 80 community thought leaders were consulted and numerous meetings of stakeholders were held. The broad expertise of this stakeholder group was critical for developing sound, specific strategies.

What are diagnostics? As described more fully in the appendix, diagnostics are far more than just the tests that detect diseases. Today's diagnostic tests can also select a patient's best possible therapy and help healthcare providers monitor and optimize their patients' response. In the near future diagnostics will increasingly be used to identify those people who are at risk of developing illnesses and also provide guidance on how each individual can maintain their health.

Why focus on diagnostics? Analysis of the changing landscape for bioscience commercialization supports the belief that the nation's investment in biomedical research is undergoing important changes. Instead of being rewarded for development of expensive therapies for illness, researchers and developers are now being encouraged to develop tools that will enable each person to establish and advance their own plan to remain healthy. These tools will be predominantly diagnostic tests, particularly molecular-based ones that identify - with a high level of accuracy - individuals who are at risk of developing a disease. Molecular diagnostic tests will also help healthcare providers guide people as they choose the interventions that can keep them in good health.

We Have the Assets and Attitude to Lead the Next Wave of Change

The Tucson region has the scientific base and the intellectual, financial and commercial leadership to become the pre-eminent location for diagnostics companies.

The region is already home to internationally recognized/emerging leaders in diagnostics such as Ventana Medical Systems, HTG Molecular, Accelerate Diagnostics, MSDx and others, and the community has world-renowned spa destinations such as Canyon Ranch and Miraval that have unparalleled reputations for promoting healthy living. No other community has these assets combined with a world-class, top-ranked research university, a strong and culturally diverse portfolio of people, facilities and real estate, and a lifestyle that attracts and retains the Creative Class.

The community that is successful in linking diagnostics, imaging and personalized health and wellness at the community level will be the leader in the next wave of change in healthcare and biomedical innovation.

Leapfrogging the Competition

The competition from other regions in the nation is intense and the Tucson region must be strategic in its investments. The goal shouldn't be to catch up with other regions but to invest in our strengths and "leap frog" to become a leader in the development of diagnostics for disease diagnosis, monitoring and prevention before others recognize the opportunity.

This analysis of what is needed for diagnostics companies to become commercial successes concluded that a "seed-to-success" strategy is essential. There are several steps between an "idea" and a commercial product and if any of the steps are missed or delayed, companies will fail to succeed. Success results from the smooth progression from idea, to proof of concept, to prototype, and to final production.

> "The community that is successful in linking diagnostics, imaging and personalized health and wellness at the community level will be the leader in the next wave of change in healthcare and biomedical innovation."

The essential stages of growth can be divided into incubation, acceleration and expansion. The region must support both established and newly formed companies so that they all remain in the region and help reach a critical mass of bioscience/diagnostics companies. The region must maintain its portfolio of talent and have facilities available at each of the critical steps in the growth of companies. The ready access to these talented people and resources will provide new startups the efficiency and sustained momentum that is required for them to succeed, provide existing, established companies a strong reason to stay, and attract companies from other regions to consider southern Arizona as a location for their growth plans.

To advance the region's standing diagnostics business development, it will require close coordination between the universities, government, foundations, nonprofits and commercial entities. The following Action List is recommended to achieve our success and stake our claim in diagnostics growth and development in southern Arizona.

(See Action List on next page.)

Action List

Fostering Success of Diagnostics Companies

Timeline/Priorities

Short Term:
- Establish National Diagnostics Institute as a public-private partnership. First priorities for NDI include developing a Diagnostics Toolkit and establish shared laboratory space to incubate companies.

Mid Term:
- Establish a Community Accelerator.
- Increase in Cross-border Biotechnology Manufacturing.

Long Term:
- Complete Seed-to-Success Strategy.
- Achieve Increase in Clinical Translational Research.

See complete detail on this Action List on pages 16-22.

Full Report

Securing the Lead:

A Comprehensive Focus on Diagnostics Business Growth in Southern Arizona

TUCSON REGIONAL ECONOMIC OPPORTUNITIES

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Current Bioscience Landscape

Tucson, the State of Arizona and Beyond

For decades, the citizens and leadership of the United States have supported a national strategy to invest in biomedical research for the purpose of improving the public's health and stimulating the nation's economic growth. Between 1998 and 2003 the federal budget for the National Institutes of Health (NIH) doubled and is projected to top $30 billion in 2012.

The billions of NIH dollars invested in basic biomedical research and in "big science" projects, such as the human genome project, have resulted in the maturation of entirely new technologies to improve health. Examples include CT and PET scanners, mass spectrometry and, the most recent advance, genomics. We will soon use our personal genome to predict the likelihood of future diseases and guide our personal efforts to remain healthy. These investments in biomedical sciences are creating tremendous commercial opportunities to translate the findings from new genomic sciences into products that sustain health and provide greater efficiency in healthcare.

Over the last decade, Arizona has invested billions to become an active participant in the national biomedical research and development (R&D) agenda. (A list of these investments can be found in the Appendix.)

At the core of these investments, the Flinn Foundation and regional leadership groups such as the Bioscience Leadership Council of Southern Arizona (BLCSA) have been most actively involved in the development and execution of the state's successful Bioscience Roadmap. While much remains to be done, the state, the business community, philanthropic organizations, the universities and community leaders have made a great deal of progress in the last decade that has improved Arizona's standing in the biosciences.

According to the Flinn Foundation's latest 2013 analysis:

Jobs: From 2002 to 2011, Arizona bioscience jobs increased by 45%, adding more than 30,700 jobs for a total of 99,018. During the economic recovery (2009-11), Arizona bioscience jobs increased by 11% compared to no gain across the state's private sector.

Firms: The number of bioscience establishments in Arizona rose 31% from 2002 to 2011, increasing from 682 to 892. The research, testing, and medical-labs subsector remains the largest in Arizona, with 466 establishments, and since 2002 has expanded the fastest, growing 59%.

Wages: Bioscience workers in Arizona earn an average annual salary of $56,328, compared to $44,098 for all private sector industries, or 28% higher. From 2002 to 2011, Arizona bioscience salaries increased 44%.

NIH grants: From 2002 to 2012, Arizona's funding from the National Institutes of Health grew slightly faster (19%) than the overall U.S. (18%).

R&D Expenditures: Bioscience-related academic research and development expenditures at Arizona's universities reached a record $452 million in 2011. This represents a 55% gain since 2002.

The question now is – where do we go from here?

Defining Market Opportunities

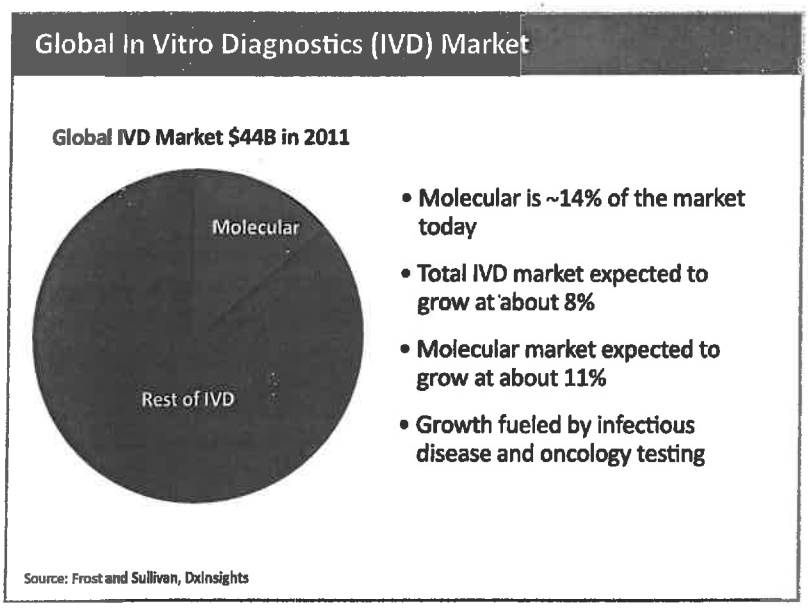
The Promise of Diagnostics

In the past several decades, nearly every region in the U.S. began to target bioscience job growth and investment with varying results. Some regions succeeded, while others struggled to find their own niche. Successful niche development has occurred in Kansas City (animal health), St. Louis (agriculture and plant sciences), and Indianapolis (pharmaceuticals), among others. Avoiding a "shotgun approach" is key to competing effectively.

The New Frontier of Medicine: Personalized Illness Prevention

With the sequencing of the human genome, there has been wide public discussion of how the practice of medicine will become personalized so that healthcare systems can "get the right drug to the right patient at the right time." We are currently facing a new era of "personalized health;" an era in which the country shifts from a focus on treating illness at great expense (both human and capital) to a greater emphasis on disease prediction and disease prevention for every individual. Strategic future research can result in "personalized health" instead of continuing our current focus on developing treatments that often don't work, are disruptive of the patients' quality of life and come with unbearable costs.

In order for America to effectively reap the potential rewards of personalized health from the nation's investment in biomedical research, we must have the diagnostic tests to determine a person's risk of developing an illness. Also, it will be necessary that we have interventions that can prevent illnesses with an acceptably low risk of side effects. Finally, our healthcare system must be willing to pay for these tests and interventions. A key technology for this transformation from illness-care to health preservation will be the diagnostic tests that can predict the subsequent occurrence of disease before harm occurs to a person.

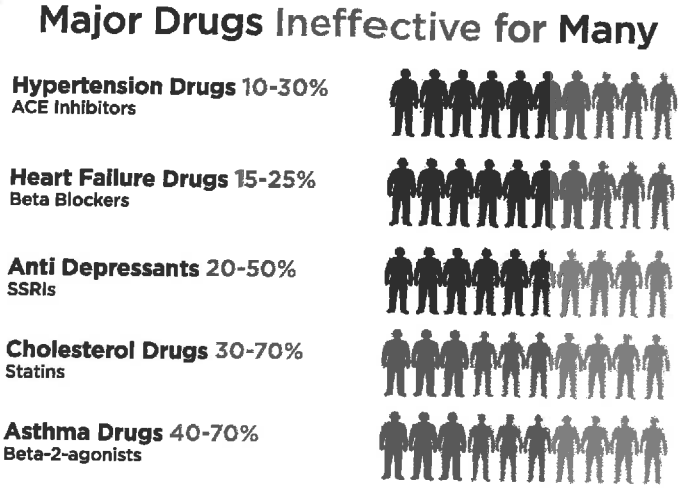


Given the trend towards illness-prevention and the central role diagnostics will play, the global market is projected to grow in the years ahead. The figure to the left shows the global in vitro diagnostics (IVD) market for those tests performed on samples collected from patients. The fastest growing segment is the molecular diagnostics component, i.e. those tests that are based on the genes or gene products of the individual person.

For more information on the scope of diagnostics, see Appendix.

Role of diagnostics in illness prevention

Fortunately, every person doesn't develop every disease. Therefore, if interventions that can prevent a disease are to have an optimal benefit-risk ratio, they must be targeted to those who are at maximum risk of developing the disease. The biggest challenge for medical researchers has been to determine which risk factors can identify someone who has a high likelihood of developing a disease before permanent damage occurs. Diseases like Alzheimer's are especially challenging because permanent brain damage occurs by the time patients demonstrate clear signs of dementia. When highly specific and sensitive screening tests become available, it should be possible to intervene only in those people who have the potential for benefit. Also, these tests will enable more rapid testing of interventions that are designed to prevent illness.



Role of diagnostics to lower healthcare costs

Therapeutic interventions (non-surgical) now account for $250 billion in healthcare spending in the US. When these interventions are analyzed for their efficacy, however, they often come up short. As shown in the figure above, when drug therapy is examined across all therapeutic areas, drugs are not effective in approximately 50% of the patients for which they are prescribed. In order to increase the response rate to therapies, one of the most important and newest uses of diagnostics is as a "companion" for targeted therapeutics. These companion diagnostics can identify the patients most likely to benefit from the drugs. This targeted approach is now encouraged by the FDA and sometimes required for a drug to be approved. There is growing consensus that the use of a diagnostic test prior to prescribing a new therapeutic has the potential to result in lower overall healthcare costs because the drugs will only be given to patients with the greatest chance for the desired response and a lower risk of side effects.

Until recently, the value of diagnostics, especially compared to therapeutics, has been less well appreciated and understood by patients, the public and healthcare providers. The need for more reliable reimbursement is a threat to future diagnostics business development. The nation should be placing more value in diagnostics yet reimbursement codes are more difficult and payments are less than adequate. We need a concerted effort to develop stable health care economic models and a sector wide effort to reshape the current approach to reimbursement by Medicare and payers. Therefore, there is a need for an entity that serves as a trusted source of educational materials and programs that focus on the value of appropriately used diagnostic tests. DxInsights is a new nonprofit educational organization founded by Mara Aspinall, President of Ventana Medical Systems and other leaders in the field of diagnostics. Based in Oro Valley, this organization has the support and active participation of leaders in the academic and commercial sectors and is positioned to facilitate the region's economic growth in diagnostics. Educational programs sponsored by DxInsights can inform key stakeholders and draw international attention to the region's new and innovative diagnostics companies.

For more on the changing financial landscape for biomedical products, see Appendix.

Emerging Diagnostics Cluster Already Exists

A feature of successful biotech clusters has been their philosophy of "growing your own" from seeds of a highly successful company that is also a leader in an emerging platform technology. The development and commercialization of diagnostics are already emerging strengths of the Tucson region.

There are few communities comparable in size to the Tucson region that are home to facilities for two major global biopharmaceutical companies like Ventana Medical Systems, a member of the Roche Group, and Sanofi. Ventana Medical Systems was founded on automated tissue diagnostics as a platform technology. HTG Molecular is an excellent example of a seed springing from Ventana's diagnostics platform and creating their own "disruptive innovation" in medical applications. Just as Ventana has disrupted and transformed the field of clinical and anatomic pathology, HTG Molecular's technology has the potential to transform the molecular profiling of diseases. Accelerate Diagnostics has the opportunity to disrupt clinical microbiology of infectious disease. MSDx has the opportunity to provide new insights to diagnose the brain's dysfunction. Even therapeutic and device companies, like Cancer Prevention Pharmaceuticals and Syncardia, are adding diagnostic capabilities.

Success of these southern Arizona companies paves the way for other diagnostics companies to follow.

Tremendous Assets to Develop Diagnostics, With Early Return on Investment

Using these companies as a springboard, the Tucson region has the potential to rapidly reach critical mass in diagnostics companies by identifying those elements that are essential for the success of new companies and making them available at the critical time needed.

The region already offers tremendous assets such as the UA's Colleges of Science, Medicine, Pharmacy, Public Health, the Tech Park, the BioPark, the University of Arizona Health Network's (UAHN) South Campus and Oro Valley's Innovation Park.

Because emerging companies have different needs and no one type of location can provide all that could be needed, one or more of these sites could be identified as the priority sites to support early stage companies, others could target mid-stage and others focus on later stage companies. (Greater detail on the stages of development of bioscience companies is provided below.)

Both Ventana and Sanofi are located in Oro Valley's Innovation Park where there is considerable room for expansion. The Mayor and Council of the Town of Oro Valley are aggressively working to accommodate the needs of potential tenants by enacting policies that expedite

Fast Facts:
Southern Arizona Bioscience Assets

NIH Biomedical Research Base - $100 million

Home to 2 Global Bioscience Giants – Ventana/Roche & Sanofi

Medical Device Innovation – Syncardia

Real Estate That Serves Bio Needs - UA Tech Park, UA BioPark, Oro Valley Innovation Park, UA Medical Center South Campus, VA Medical Center, BIO5 Oro Valley

Truly Unique Supporting Organizations – C-Path, AZCERT, DxInsights, and BLCSA

Nationally-Ranked High Schools - Basis, University High, Sonoran Academy

approval of building plans and by exploring public-private partnerships to support bioscience collaborations. Oro Valley Hospital is in the Park and eager to establish clinical collaborations.

High quality schools such as nationally-ranked Basis High School facilitate the recruitment of new scientists and their families. A remarkable asset, the UA's BIO5-Oro Valley laboratories are also nearby. This facility has the potential to incubate new diagnostics companies. Oro Valley's Innovation Park and the surrounding community are attractive locations for startup companies. As these new companies grow, there are additional sites in the region that are ideal for their expansion and/or relocation without significant interruption to their growth.

For those companies that require close collaboration with clinical researchers, locations in or around the UAHN South Campus and Pima County Health facilities are attractive because of their expansive clinical care facilities including the nearby Veterans Affairs Hospital. Accelerate Diagnostics recently chose to move from its home in Denver to Pima County facilities because of the opportunity to collaborate with clinical scientists at the UA and a commitment of space for laboratories from the County. This underscores the fact that availability of laboratory facilities and a capacity for clinical research collaborations are considered essential for the success of new diagnostics companies.

Those companies that need larger facilities and that have the capacity for capital investment will be well-suited for the UA's nearby BioPark, which has land fully prepared for construction and ready access to I-10 and Tucson International Airport. As the critical mass of successful companies in the region grows, their success will also will help attract new companies to relocate to sites such as the UA BioPark.

Finally, there are vendors in the area, such as CAID Automation, who specialize in designing and building automated and semi-automated systems used for assembly, material handling, packaging, robotics, and vision inspection. These systems are used by companies that manufacture products in several different segments, including medical diagnostics. Further development of the supply chain for this industry is another key ingredient for building the diagnostics industry.

What Are the Gaps in Serving Diagnostics Companies?

The following is not a thorough analysis but a brief summary of the important gaps that have been identified in prior studies and reports.

Limited Access to Laboratories

When recruiting new bioscience companies, TREO has identified limited availability of laboratory facilities to be a weakness of the region. Laboratories are not only very expensive to construct, there are many variations in how they will be used and therefore how they should be designed. As examples, laboratories can be chemical, biologic, microbiologic (several safety grades), mechanical engineering, etc. Equipping each of these types of facilities can cost millions and, due to the rapid evolution of science, they can become out of date very quickly. Startup companies often have unique facility requirements. The UA TechPark has laboratories that could readily meet the needs of chemists or biomechanical engineers and the UA BIO5-OV facility has excellent fully equipped chemistry labs. However, the biologic labs that are required by molecular diagnostics companies are not currently available in the region and would have to be built at an expense that is rarely feasible for a startup company.

Limited Access to Clinical Collaborators

Because most biomedical research is conducted in laboratories using isolated cells or tissues, additional research in humans or human tissues is required to provide evidence that a discovery truly has medical value, i.e. clinical proof of concept. Clinical research collaborations between discovery scientists and clinical investigators are essential for the success of diagnostics companies. As described below, support for clinical research infrastructure in the Tucson region is limited, making it difficult to establish these collaborations.

The UA's BIO5 is making recruitment of clinical scientists a priority and has designated research funding and endowed chairs to attract the very best to the UA. The UA Health Sciences Center has a small clinical research program that offers fee-for-service research support to clinical investigators, i.e. the Clinical and Translational Sciences (CaTS) Center. Expansion of this and other clinical research programs in the region could create important collaborations with startup companies, enabling them to test the medical value and safety of their new products.

Gaps in Serving Diagnostics Companies

- Limited Access to Laboratories
- Limited Access to Clinical Collaborators
- Limited Access to Capital Investment
- Lack of Clinical Research Infrastructure in the Region
- Access to University Intellectual Property

Limited Access to Capital Investment

Although the region is fortunate to have Desert Angels, one of the most respected Angel Investment organizations in the nation, new companies still find it very difficult to obtain adequate funding. Startup CEOs must travel around the globe to find adequate support to develop and launch their technologies. To stimulate local investment, the state provides investors in Arizona companies an Angel Tax Credit for investments up to $250,000. Currently, a bill is being considered by the State Legislature to create a $50 million state-supported early-stage technology investment fund. Continued efforts by state and local governments to create policies that support investments in new diagnostics companies will be essential for their success.

Lack of Clinical Research Infrastructure in the Region

Although several large clinical research projects have been launched in Arizona, federal funding of clinical research infrastructure has been minimal. Recognizing the importance of such an infrastructure, the NIH awards over $600 million annually to fund clinical research facilities at 60 major university medical centers. These grants for Clinical Translational Research Awards (CTSAs) range in size from $5-20 million per year and are awarded to the nation's leading academic medical centers. They fund a research infrastructure that supports a wide spectrum of clinical research but are only awarded when the host institutions have made the initial substantial financial investments. In recent years, the UA, TGen and ASU have collaborated to submit applications for the CTSAs but these efforts have so far been unsuccessful, in part due to the lack of initial clinical research investment.

Access to University Intellectual Property

To expedite the commercialization of university faculty's intellectual property (IP) that results from their research programs, the UA and most universities have developed "Technology Transfer" offices. These programs require large and sustained investments and only a few are considered to be highly successful. As the result of a recent reorganization of its program, the UA recently created Tech Launch Arizona (TLA) to enhance and improve technology commercialization.

TLA was created for two purposes: 1) to restart/reignite University of Arizona technology commercialization and 2) to integrate the Office of Technology Transfer, the Office of Corporate and Business Relations and the University of Arizona Research Parks and its business incubator, the Arizona Center for Innovation, to support purpose #1.

TLA is creating a culture of technology commercialization service for faculty in at least 6 basic areas:

- Process streamlining and transparency
- Creating greater and more balanced financial reward for inventive success
- Bringing forward entrepreneurs and investing in speculative patent filings
- Bringing subject matter domain expertise from the community and alumni into the process to help assess the market for inventions
- Financially supporting technology maturation to validate UA inventions where market drivers align with technology drivers
- Standing alongside other early investors with capital to support the early growth of UA technology start-ups

Detailed Action List

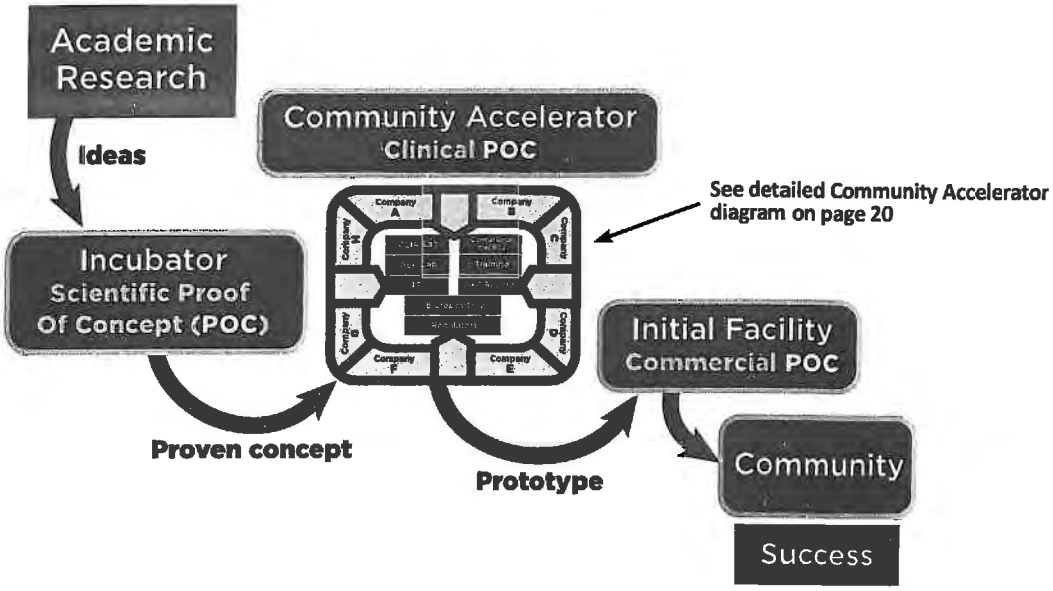
Fostering Success of Diagnostics Companies

The following are specific steps the region should consider taking in order to increase the likelihood of success for new diagnostics companies:

Embrace an Essential "Seed to Success" Strategy

For a bioscience invention or concept, i.e. a "seed," to transition successfully from the laboratory to become a marketed product, resources and expertise must be in place for every step through the gauntlet of scientific, medical, regulatory and financial challenges it will face. The figure below shows the major steps and types of resources that are required for a product to be developed successfully. If at any step along the way, a company falters, progress in technology development will stop, the company will fail or the company will move to another region. Many, but not all, of the necessary resources for a seed-to-success strategy are in place in southern Arizona. (See gap analysis summary above.)

From "Seed to Success"



The region's "Seed-to-Success" Strategy: incubate innovative scientific observations at universities, accelerate concept and prototype development and connect startup companies to the community so that they grow, prosper and remain in the region.

Seed Phase

Arizona universities receive almost one billion dollars each year in federal research grants. The University of Arizona has a strong well-established basic research program with over $600 million in federal research grants awarded annually. ASU also has an aggressive plan to increase research over the next decade. This research, conducted by hundreds of investigators, generates many new concepts for biomedical advances but typically only a fraction of these have the potential to become commercial applications.

Incubation Phase

Essentially all of the "ideas" or inventions from university research must be incubated to determine whether they have commercialization potential. This may require verification of earlier research results and testing in new experimental models that more closely approximate their subsequent application, i.e. scientific proof of concept. It is often necessary that the invention be evaluated in human tissues or tested in clinical trials, i.e. clinical proof of concept. This requires a close collaboration between the inventing scientists and trained clinical investigators who are practicing in a clinical research environment where they can enroll subjects and patients in trials and clinical protocols. Funding for this type of applied research is rarely available from the usual federal sources (NIH or NSF). Also, conducting developmental clinical research competes for precious time when physicians could be caring for patients, a role that is traditionally much more lucrative for physicians and hospitals. Therefore, funding from the universities, foundations or angel groups is essential for this phase.

Once clinical proof of principle has been established, a startup company is better prepared to raise the funds that are required to complete the next phase. This, the most expensive and time consuming phase, requires an investment of millions of dollars to demonstrate that the product can be successfully marketed, i.e. commercial proof of concept.

Accelerator Phase

To demonstrate commercial proof of principle and market launch a promising invention, the work often requires special facilities that meet the standards of government agencies such as the FDA and/or the Center for Medicare & Medicaid Services (CMS). Many small startup companies will only need temporary access to laboratories that have GLP, GCP or CLIA certification and therefore can rarely justify the extremely high cost of creating and maintaining such facilities. However, they may be able to pay for temporary access to such facilities, especially if other essential facilities and services were readily available in the same location. When these resources are not available locally, the only alternative is to contract the work to companies outside the region and often at a much higher cost.

The previous figure includes a "Community Accelerator" which could be the focus of a public private partnership (see page 19). The Accelerator could make the following services and shared facilities available to startup companies: office space, lab space (GLP and/or CLIA standard), shared access to reception, IT, GXP (GLP or GCP) data provenance and storage, biospecimens collection and repository, conference rooms, video and teleconference facility, training suites, video production for investigator training and/or human subject enrollment, research site monitors, administrative support (book-keeping, payroll, HR), and consultation on regulatory strategy, market analysis and business planning.

The Accelerator's technical staff could provide guidance and advice on when and how to apply for federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants. Collaborations between DxInsights, C-Path, AZCERT, UA's Eller College Entrepreneurship program and ASU's Venture Catalyst program could provide essential elements of the Accelerator's programs.

Scale-Up Phase

Working in the Accelerator, small startup companies will be able to develop a prototype of their product or its equivalent, i.e. the early clinical data or "mock up" that attracts venture capital investors in their company. Many of these companies will want to develop their own initial facility to begin growing their business. Fortunately, the region has several attractive alternative locations for the expansion of these companies and help the region reach the important critical mass.

Success Phase

Successful companies will need to scale up production of their product and at this point, they may have the stability and financial support to plan the construction of new facilities. The UA's Tech Park and BioPark, Oro Valley's Innovation Park or other locations in the region will be ideal for many of these companies. Some are likely to be attracted to locations that are nearer to the Tucson International Airport, I-10 and other transportation and shipping hubs. In order to maintain their momentum, most will prefer to stay in their home region. Some may want to retain headquarters in the Tucson region but take advantage of the labor cost and maquiladora tax incentives to perform production and assembly of products in Northern Mexico.

The success of diagnostics companies in the region will depend upon a united effort by all stakeholders, i.e. governments, universities, nonprofits and the commercial sector to create the seamless path for companies to navigate from seed to success. No single entity has the breadth of expertise or the resources to adequately address even a portion of the collaborative effort that will be required.

Develop a Strong Support Network and Infrastructure Assets

Establish National Diagnostics Institute (NDI) in Arizona

Following the highly successful model that launched Critical Path Institute, the academic, government, business and philanthropic leaders in the Tucson region should join forces to support a nonprofit institute that focuses specifically on execution of programs that facilitate the development of new diagnostic tests and foster the success of both existing and new diagnostics companies in the region.

The NDI would create a collaborative environment to support the needs of scientists and entrepreneurs working in the field of diagnostics research and development. It can serve as the catalyst and convener of collaborations that conduct research and analyses that demonstrate the value and impact of diagnostics. Through collaborations between university and commercial partners, the NDI can help create training programs, conduct educational conferences, set the industry standards for data and product performance and provide the shared infrastructure that will support the successful commercial development of new, highest quality, diagnostic tests from molecular assays to new imaging reagents and methods.

To be successful, NDI will require a respected home that has strong ties to academia and the broader scientific and commercial diagnostics community. DxInsights, a nonprofit organization recently established in southern Arizona, is an example of an organization that fits this description. Its mission is to educate healthcare stakeholders on the power and value of diagnostics and their impact on improving patient outcomes and reducing costs. It is the logical coordinator of this initiative and a logical home base for the NDI. With its international network of advisors and commercial partners in diagnostics, it can sponsor educational conferences to promote the new curriculum and the advances made by companies in southern Arizona. It can also create a national and international educational agenda – working with the universities to bring diagnostics experts from around the world to speak here about their cutting edge technology and research.

Establishing research and data standards is essential for the growth and dissemination of any new technology. Working with local companies and the Clinical Data Interchange Standards Consortium (CDISC), it can establish research data standards that are needed for enhanced efficiency in diagnostics R&D and enable local companies to set the global standards for others to follow.

For such an emerging and rapidly evolving technology such as molecular diagnostics, diagnostics imaging systems and many others are the only practical sources of "real world" experience and expertise from industry leaders, e.g. Ventana Medical Systems, Siemens Diagnostics, Life Technologies, GE Healthcare, etc. NDI could work with DxInsights to form partnerships with these or other leading companies that would be among the primary beneficiaries of having a highly trained workforce in diagnostics. NDI and DxInsights could work closely with the university and community college programs in Arizona and the nation to develop and launch a new curriculum for training scientists and clinicians in the field of diagnostics. NDI would also work closely with smaller companies that have the cutting edge technologies but lack the full scope of essential tools and skills to succeed.

Establish a Check List for Success of Diagnostics – The "Diagnostics Toolkit"

NDI can also develop and offer emerging companies a "check list for success", i.e. the items that are not generally available but are essential for the success of startup diagnostics companies. It can connect the companies with the consultants and/or collaborators that can provide them with the basics of sound business, research and development operations and the unique, special tools and skills needed for success as a diagnostics company.

Working with university-based entrepreneurship programs and local investors, NDI could advise and provide guidance on how to develop 1) a business plan, 2) a regulatory strategy, 3) an investment strategy, and 4) a medical product sales reimbursement strategy that includes a protocol to demonstrate the cost-effectiveness of their diagnostic product.

The rapidly changing business environment for diagnostics companies will require that these tools and resources be updated continuously. A program with this breadth would be truly unique and invaluable to startup diagnostics companies.

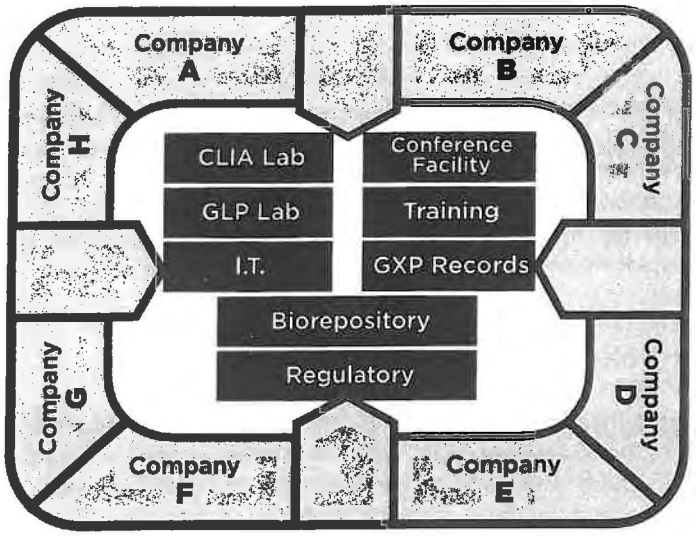
However, NDI would not just focus exclusively on startup diagnostics companies. Its activities and programs would be geared to both existing companies in the region in order to retain their operations as well as be an attractive asset for new companies looking to relocate or expand in southern Arizona.

Establish a Community Accelerator

NDI can work with university programs such as Tech Launch Arizona (TLA) at the UA and AZ Furnace at ASU with established commercial partners in the diagnostics industry to begin creating the infrastructure needed for commercial success of emerging diagnostics companies in Arizona. An essential element in the infrastructure should be a shared, fully-equipped Accelerator facility that includes all of the technical elements required for the success of new diagnostics companies. This facility should be made available at minimal cost to those companies that have been incubated in the universities.

The figure on the next page shows a schematic of the components of such an Accelerator. It should include a laboratory that operates under Good Laboratory Practice (GLP) standards and a CLIA-certified laboratory for testing human biologic samples. The Accelerator should include a biospecimens collection and storage repository so that companies can share the cost of having well-annotated biospecimens that they need when evaluating their diagnostic test. Startup diagnostics companies rarely have the resources required to construct these facilities but they could share in the cost of maintaining a shared resource.

Companies could obtain temporary access to the services and the space that they need at any particular phase of their development. This minimizes their overall operating costs and prevents loss of momentum caused by the need to construct new laboratories or move to other facilities.



Community Accelerator

Schematic for an Accelerator Facility (not to scale). Definitions: CLIA = Clinical Laboratory Improvement Amendments, I.T. = Information Technology support, GLP = Good Laboratory Practice, GXP Records = GLP and Good Clinical Practice records storage and provenance

Core laboratories and facilities such as those in the Accelerator require a long-term investment that is not likely to be feasible for most individual medical product developers who have short-term needs for such a facility. However, it could be an ideal opportunity for a public-private partnership. Companies that have demonstrated scientific and clinical proof of concept for their product's value and have obtained adequate investment will need flexible shell space that can be rapidly and inexpensively customized for their specific needs. Pima County and/or other local municipalities could use their bonding authority to fund public-private partnerships that would create Accelerator facilities to meet the needs of emerging diagnostics companies. The Accelerator could be operated and managed by DxInsights or by a collaboration of non-profits, e.g. DxInsights, the universities, AZCERT and C-Path. Without these types of offerings in the community, the region's startups could be lured away to other communities just at a time when they are ready to have a positive economic impact for the region.

Accelerate Academic Community-Based Clinical Research Collaborations

One of the critical aspects of translational biomedical research is to verify the clinical utility of a potential diagnostic product. Most of the research funded by the NIH is laboratory-based research and, as such, doesn't usually include developmental research. This requires biological samples collected from normal subjects and/or patients and, in most cases requires the enrollment of human subjects in prospective clinical research. The ability to conduct such truly translational clinical research that supports a new commercial product requires additional support from all of the stakeholders. A partnership between the UA Colleges of Medicine in Tucson and Phoenix and the National Diagnostics Institute could attract funding from the industry, NIH and disease-based foundations that have an interest in supporting translational research, especially for translating biomarkers into clinically valuable diagnostic tests.

Conventional clinical research requires large numbers of trained clinical investigators who enroll patients into clinical trials that usually cost tens of millions of dollars and years to complete. However, this model

often generates very expensive knowledge that is often out of date by the time the research is completed. However, new approaches are becoming feasible. Future clinical research will utilize social media tools to enroll subjects into clinical trials that use modern wireless technology to capture data and advanced Bayesian statistical approaches to analyze the data. Pfizer's REMOTE trial has demonstrated the feasibility of this approach and is rapidly being replicated. Modern medical research centers such as Vanderbilt, Geisinger Health Clinic and others are developing programs in which patients give blanket consent for research when they agree to receive healthcare unless they chose to be excluded. This greatly facilitates gathering of data without sacrificing privacy or impeding consent.

In the face of declining federal funding for clinical research, successful communities will have to invest in programs that have maximum research efficiency, medical impact and attractiveness to those who fund research.

To remain competitive for biomedical research funding, community-based collaborations are needed to identify populations of individuals with risk factors for development of diseases who can be readily and efficiently enrolled in clinical research. These collaborations will attract funding from the NIH and from companies seeking research collaborations to support the development of their products. These community-based research initiatives will require standardized electronic health records, distributed enrollment methods, wireless data capture technology and well annotated biospecimens from state-of-the-art biorepositories.

The region has several candidate areas of clinical prevention research to consider. Building on the strengths of the UA Cancer Center and companies such as Cancer Prevention Pharmaceuticals, a program to prevent colon cancer should be given strong consideration. Likewise researchers in the Sarver Heart Center and AZCERT have developed technologies that could be used to prevent sudden death, especially those due to genetic disorders or deadly reactions to prescription medications. These same technologies can also be used to screen athletes for risk of sudden death during exercise.

Initiate More Cross Border Collaborations in Biotechnology Manufacturing

Pharmaceuticals have been one of the most profitable and, until recently, rapidly growing elements of the US economy. The market is expected to change in major ways. With the passage of the Affordable Care Act, more Americans are gaining greater access to health insurance that includes coverage for their medications, primarily generic drugs.

Approximately 80% of the prescriptions filled today are for generic drugs and the proportion is expected to rise dramatically as patents expire and price competition increases. Most of these generic medicines were developed before the era of personalized medicine and are only effective in about 50% of those treated. This creates a tremendous opportunity for the development of diagnostic tests to guide the selection of the best generic medicine and how it is given. In recent years, generic drug manufacturing has experienced difficulty keeping up with the growing demand and there are now serious shortages of over 150 important commonly prescribed generic drugs.

In the 1970s, Congress created very attractive tax incentives for pharmaceutical companies to manufacture drugs in Puerto Rico and dozens of companies built their manufacturing plants there. However, these tax incentives expired in 2006 and companies have closed many of those facilities. The few plants remaining in Puerto Rico have become the victim of power shortages, hurricanes and the resulting mold infestations. Manufacturing problems in Schering-Plough's Puerto Rico facilities have been cited as the precipitating cause for its acquisition by Merck.

Pharmaceutical companies are now seeking more economical and environmentally favorable sites for their plants, e.g. China, India, or Ireland. Contamination, counterfeiting and faulty manufacturing of drugs in China and India have created great concerns about these countries as alternatives to sites in the US. Leaders in other industries such as electronics that in the past have moved manufacturing to China, cite problems such as rising labor costs, counterfeiting, the need to ship inventory long distances and difficulties with communication as reasons for their movement of manufacturing back out of China.

Because of closure of outdated manufacturing facilities that didn't meet FDA's newest standards, pharmaceutical companies have not been able to keep up with the demand for many generic drugs, especially sterile injectables. There have been documented increases in the deaths of children who didn't have access to generic injectable chemotherapeutic agents. To fill this demand, compounding pharmacies have manufactured products without FDA oversight but this has resulted in contaminated products and an alarming number of deaths and hospitalizations.

Because generic drugs have a smaller marginal profit than brand name drugs, the industry has made the business decision to preferentially invest in manufacturing brand name drugs. Few have chosen to continue manufacturing many of the drugs that are now generic, even though the total market for the drugs in short supply - for oncology alone - is estimated to be as much as $25-30 billion annually. The FDA has declared that generic drug shortage is a crisis situation and now sends weekly alerts to healthcare providers by posting each week on its website a list of the drugs that are in severe shortage.

As in other manufacturing fields, pharmaceutical companies were attracted to Asia and India because of the lower labor costs. However, as wages rise in these countries, this is less a factor. Also, pharmaceutical manufacturing has special requirements that companies operating in these regions find difficult to meet. For products that are to be marketed in the US, the manufacturing facilities must be inspected by the FDA and the products must meet the highest standards. As mentioned above, many of the plants in both Asia and India have had difficulty meeting these standards and there is growing concern about the FDA's ability to assure the safety of their medical products.

The Arizona-Mexico border could provide a solution to the manufacturing crisis for generic injectable drugs and create economic opportunities in southern Arizona. The current problem of lower marginal profits could be addressed by the lower labor costs and the tax benefits that would result from the maquiladora model. The well-established and agile infrastructure that supports the maquiladora industries in Mexico, such as that provided by the Tucson-based Offshore Group, is a positive asset that could help new companies develop the training programs and workforce necessary to launch new products. The current success of Becton-Dickinson in Nogales demonstrates that sterile manufacturing of medical products is not only feasible, it can be highly successful.

Arizona-based companies could design sterile manufacturing facilities in Sonora for products that are competitively priced and meet the FDA's standards for quality and safety. As shown by the recent decision by Integrated Technologies Group, the headquarters for these companies could be based nearby in southern Arizona providing ready access to product design and manufacturing, expertise in FDA regulatory requirements, compliance monitoring, marketing, etc. The UA College of Pharmacy and the University of Sonora, Mexico are well positioned to train the workforce needed to support the industry on both sides of the border. The required FDA inspections would be more feasible for facilities in Mexico compared to those in Asia or India. Southern Arizona has the key ingredients to address this market need.

Who We Are

The goal of TREO is to facilitate primary (non-retail) higher-wage job and investment growth, in order to increase wealth and accelerate economic prosperity throughout southern Arizona.

This work demands a competitive, business-friendly environment that allows primary employers to flourish and succeed. Thus, a secondary role of TREO is to shape policy and mobilize resources to assure that the region is competitive. TREO engages in various efforts and partnerships focusing on demonstrating leadership to strengthen education, create a vibrant downtown and engage in infrastructure improvements.

As the region's only true private-public partnership, TREO connects the private sector, governments, nonprofits and academia to provide leadership on competitive issues and a unified voice to the national and international business community.

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Appendix

Securing the Lead:

A Comprehensive Focus on Diagnostics Business Growth in Southern Arizona

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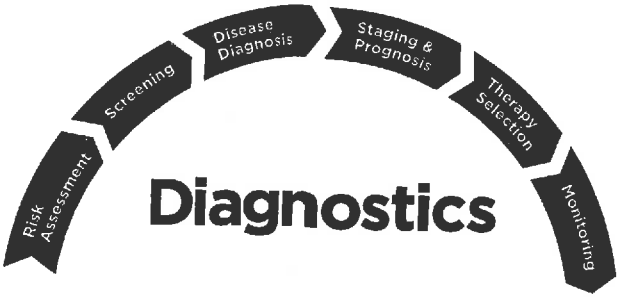
What Are Diagnostics?

The most basic definition of a "diagnostic" is a test that provides healthcare providers with the diagnosis of a disorder or disease for a specific patient. However, the term is often used with broader meaning to include tests that predict the course or severity of a disease or tests that predict how a person will respond (or not) to a therapy. As shown in the figure below, increasingly diagnostics have many applications and include tests that monitor disease and contribute to patient care beyond the initial diagnosis.

There are many different technologies within the diagnostics arena. Molecular diagnostics is one that has received much attention and focus. Molecular diagnostics are those tests that employ the newest laboratory technologies to identify and study the DNA, RNA and/or proteins in samples taken from an individual patient in order to test for their specific state of health or disease. Molecular diagnostic tests have been pioneered by Ventana Medical Systems, HTG Molecular, Accelerate Diagnostics and others in the region. Imaging is another area within the diagnostics market where the region has substantial and unique expertise.



Attributes of Successful Biomedical Clusters

Being Prepared

In the 1970s, the NIH began expanding its investment in biomedical research. Those communities with strong academic medical centers were well prepared to successfully compete for this funding and capitalize on the opportunities for commercialization. Well-established medical schools at Harvard, Stanford, Chicago, Duke, and state universities such as those in California, Virginia, Michigan, Pennsylvania and Washington were the first to help launch new biotech companies and create the centers of Biotechnology Clusters. Bethesda, Maryland, home to the NIH's massive intramural research program and close neighbor to five academic medical centers (Johns Hopkins, Georgetown U., George Washington, U. Maryland, Howard University), became one of the world's leading regions in biotechnology commercialization.

Real estate investors in each of these regions made it possible for companies to co-locate and create the critical mass of companies that further supported rapid growth. Such sites as Sandhill Road in Palo Alto, the I-270 corridor in Maryland, Torrey Pines in San Diego and Research Triangle Park (RTP) in North Carolina have become synonymous with biotech success.

Attractive to the "Creative Class"

Each of the nation's successful biotech clusters are exceedingly attractive to the "creative class," a concept popularized by Richard Florida, the Keynote Speaker for TREO's 2007 annual meeting. Companies relocate to where talent lives, so this socioeconomic class is the key driving force for successful economic development. These talented and highly educated people seek communities that support and welcome their creative talents at work and play. They enjoy a vibrant urban downtown which has the arts, theater, concerts, ethnic and cultural diversity, and great nightlife. They also desire an environment where they can be outdoors hiking, biking, running and playing sports. They demand high quality K-12 education for their children.

Sustained Commitment

Another attribute of successful regions is that their community investments have been sustained over decades. The regional investment in Maryland, Palo Alto and RTP began in the 1960's and has never wavered. Thirty years ago, San Diego created CONNECT to facilitate the growth of the biotech companies stemming from the University of California, San Diego (UCSD). CONNECT created the relationships between the university, the business community and government that fostered success of startup companies.

CONNECT has been cited as one of the major reasons for economic growth in the region. In 2007, venture capital investment, the lifeblood of biotech startup companies, reached $1.68 billion in southern California. In San Diego alone, the life science industry is responsible for nearly $9 billion in annual economic impact. The cluster has more than 44,000 employees at some 700 companies, including 33 publicly traded life science companies with a total market value of nearly $25 billion.

Regional planning and a coordinated, sustained commitment to attract and retain biomedical companies has contributed to the success of regions such as Boston's Cambridge, Research Triangle Park, the San Francisco Bay area (Silicon Valley) and San Diego (Torrey Pines). Regions that were wed to their past successes have struggled to keep pace. Pharmaceutical strongholds such as Philadelphia/New Jersey and Detroit/Kalamazoo failed to sustain a regional commitment to grow academic research programs or to support new biomedical science companies.

Attributes of Successful Bioscience Clusters

- Being Prepared
- Attractive to the "Creative Class"
- Sustained Commitment
- Ability to Leverage Success
- Reach a Critical Mass of Companies
- Aggressive, Coordinated Stakeholder Investment

Ability to Leverage the Success of a Leading Company and its Platform Technology

Another characteristic of the successful bioscience clusters is that much of their growth stemmed from a single successful company that created a new technology platform for the region. Minneapolis' emergence as a center for biomedical device companies with companies like Medtronics began when 3M applied its expertise in chemistry to begin making medical devices that could be implanted safely in humans. Research Triangle Park began with a successful pharmaceutical company, Burroughs Wellcome, which attracted a relatively small company Glaxo that grew to become the global giant GSK. Other companies like RTI International grew around these pharmaceutical companies to support their research and business needs. San Diego's growth in biotech began with Hybritech, which emerged from a UCSD program that was developing monoclonal antibodies as a new type of drugs for human use. After Hybritech was successful and purchased by Eli Lilly, many of the early investors and scientists who wanted to remain in the region launched other monoclonal antibody companies that were eventually even more successful than Hybritech.

Reach a Critical Mass of Companies

Leaders of successful clusters of bioscience companies always cite the importance of reaching a critical mass of companies in the region so that, if one company falters or changes directions, the employees won't have to relocate to find new employment. That means that the region must identify a priority platform technology such as diagnostics and provide the nurturing environment for existing companies to succeed and for new ones to emerge and move quickly to profitability.

Aggressive, Informed and Coordinated Investment by all Stakeholders

In the 1960s and 70s, many of the commercial successes in the biomedical field came from the research and development (R&D) programs within large pharmaceutical companies such as Merck, Upjohn, Pfizer, Sanofi and Roche. These R&D programs often focused on technology that was licensed from universities, a process facilitated by the Bayh-Dole Act of 1980. However, with the rapidly rising cost of drug development and the unacceptably high failure rate of their products, large pharmaceutical companies have significantly reduced the size of their R&D programs and begun acquiring small companies that can demonstrate that their technology is likely to be successful.

In this case, success depends on demonstration of "proof of concept" at a number of steps along the way to market. At each step investors and developers require a different level of proof. For a new laboratory observation, "scientific proof of concept" may mean that the laboratory tests have been replicated in another laboratory using different methods, sometimes called "target validation" when applied to drug development. In the next stage, before a startup technology is likely to be acquired by a large biopharmaceutical company or device company, they must show convincing evidence that the product has clinical efficacy, i.e. "clinical proof of concept". At later stages, a company has to demonstrate "commercial proof of concept" for its product which often means that the company has a plan that is likely to 1) gain FDA approval and 2) gain reimbursement by payers at a level that can generate a net profit.

The long delay before major companies invest in new technologies places much greater pressure on startup companies to find venture capital investors who are willing and able to wait for increasingly longer periods of time to see a return on their investment. Traditionally, venture capital investors seek a return within a few years and are not willing to commit to a decade or more of clinical development. Further, venture capitalists are wary of products that require FDA approval, which can delay a development program resulting in millions of dollars in unforeseen costs. In this environment of limited capital investment, communities must find ways to nurture small startup companies in order to maximize their efficiency and to minimize the time required for them to develop their technologies.

Changing Financial Landscape for Biomedical Products

In recent decades, by far the greatest bioscience investment in the US has been in the field of healthcare. Pharmaceutical companies invest over $40 billion annually in R&D. Venture capitalists invest another $28 billion dollars annually in new biotech companies, a number that has remained steady during the recent economic downturn and there are indications that enthusiasm remains high for economic success in developing new medical products.

Although the national investment in biomedical research has yielded enormous profits from some prescription medicines, medical devices and healthcare delivery systems, a recent report from McKinsey emphasizes that the era for success of blockbuster products such as the lipid-lowering drug Lipitor® is

ending. The report points out that there is growing recognition that diseases such as cancer, Alzheimer's and Parkinson's, are unlikely to respond to a single treatment because their etiology and their progression are complex and vary greatly between individuals. We also now recognize that by the time neurologic diseases such as Alzheimer's can be diagnosed, the damage is no longer reversible. There is growing frustration with the pace of progress in finding cures and biomedical researchers are beginning to look at disease prevention as a better strategy to improve health.

> "Blockbusters" and "one size fits all" medicines are being replaced by large numbers of precision medicines for smaller populations.

The high cost of branded prescription drugs has led governments and other health insurers to encourage the use of generic drugs. They also call for comparison studies designed to support the increased use of generic drugs as a way to lower overall healthcare costs. Although generics may cost less, fewer people overall are likely to respond, again pointing to the value of diagnostic tests that can target responders.

While there has been some success in developing personalized medicines such as those for rare or "orphan" illnesses, these medicines are very expensive and often cost tens or even hundreds of thousands of dollars per patient per year. Many leading hospitals, such as Memorial Sloan Kettering, are now refusing to treat patients with new medications that have exorbitant costs and provide only marginal benefit over older ones.

This changing landscape means communities such as Tucson must be nimble and adapt quickly to market conditions.

The Competition: Leveraging Public-Private Partnerships

Across the US, regions and municipalities have formed public private partnerships that have enlisted real estate developers and investors to support a wide variety of strategies intended to establish and grow biotech clusters. These range from fully built-out incubator labs (Maryland's I-270 corridor), to new research institutes like TGen, to entirely new biomedical communities like those in Florida (see figure right). During a period of budget surplus, Florida Governor Jeb Bush successfully attracted the Scripps Research Institute to open a major biomedical research facility on Southeast Florida's coast. That was followed by Germany's Max Planck Institute, opening their only US-based research facility next to Scripps. San Diego's Torrey Pines Institute for Molecular Studies was recruited to Port St. Lucie, followed by the Vaccine and Gene Therapy Institute (VGTI).

Aerial view of Florida's Lake Nona Medical City

As part of this initiative, the Florida universities have all upgraded their biomedical research capabilities. The University of Florida and University of Central Florida's medical schools are collaborating with the central Florida business community to create the massive Lake Nona Medical City. Located less than 10 minutes from Orlando International Airport, the Lake Nona community includes the Sanford-Burnham Medical Research Institute at Lake Nona, University of Central Florida's College of Medicine, the University of Florida's Academic and Research Center, the Orlando Veterans Affairs Medical Center and M.D. Anderson's Orlando Cancer Research Center.

With such strong competition and aggressive financial and public investment taking place across the country, Arizona and the Tucson region must be both strategic and innovative if it expects to remain competitive. The common trait of successful regions is that they have invested in a growth strategy for bioscience innovation in addition to retention strategies for the companies they now have.

Arizona's Strong History of Bioscience Support

Over the last decade, Arizona has developed an economic development plan for the state to become an active participant in the national biomedical research and development (R&D) agenda.

- In 2000, Arizona voters approved Proposition 301 that, over twenty years, will provide more than $1 billion in biomedical research funding for the state's three universities.
- In 2002, the Flinn Foundation commissioned the Battelle Institute to develop Arizona's Bioscience Roadmap and to track and report on progress so that any necessary adjustments to the roadmap can be made. The Flinn Foundation subsequently asked Battelle to refine the roadmap for each of the three geographic regions (Southern, Central and Northern Arizona). This roadmap and progress reports have been exceedingly helpful and have provided metrics for measuring the state's progress.
- In 2002, the Phoenix city government led efforts to raise over $90 million to recruit genomic scientists from the NIH to establish the Translational Genomics Research Institute (TGen) and the International Genomics Consortium (IGC) in downtown Phoenix - the same site chosen for the UA's new medical school in Phoenix. The Virginia G. Piper Charitable Trust has supported collaborations between TGen and ASU to establish the Personalized Medicine Program at ASU that is led by Nobel Laureate, Dr. Leland Hartwell.

Arizona and Southern Arizona Bioscience Organizations

AZBio

AZCERT, Inc.

BIO5 (University of Arizona)

Biodesign Institute (Arizona State University)

Bioindustry Organization of Southern Arizona (BIO-SA)

Bioscience Leadership Council of Southern Arizona (BLCSA)

Critical Path Institute

DxInsights

Flinn Foundation

International Genomics Consortium

Science Foundation Arizona

Translational Genomics Research Institute (TGen)

- In 2004, the state legislature approved $440 million for construction of research buildings that now house interdisciplinary researchers in the BIO5 Institute at the University of Arizona (UA), the Biodesign Institute at Arizona State University (ASU) and the Applied R&D Center at Northern Arizona University (NAU).

- In 2005, with support and leadership from the Greater Tucson Economic Council (precursor of Tucson Regional Economic Opportunities or TREO), the UA launched Critical Path Institute (C-Path). C-Path is a partnership between the UA and the U.S. Food and Drug Administration (FDA) that now includes over 40 global biopharmaceutical companies and regulatory agencies from the US, the European Union and Japan.

- In 2006 TREO unveiled a master plan for the region's economic development efforts, the Economic Blueprint, which identified the bioscience industry as one of its priority areas for recruitment and retention of companies.

- In June 2006, the Arizona Governor and State Legislature created the Arizona 21st Century Competitive Initiative Fund under the authority of the Commerce and Economic Development Commission (CEDC) of the Arizona Department of Commerce. In November 2006, CEDC entered into a contract with the newly founded Science Foundation Arizona (SFAz) to provide the services outlined in the legislation, providing $35 million for the first year of grant investments. In 2008, the State appropriated an additional $25 million for grant investments, which was matched by a donation from the Stardust Foundation. In August 2008, SFAz began operating a new entity, the SFAz STEM Initiative that is focusing on science and math education. The state's CEO leadership organizations (Southern Arizona Leadership Council (SALC), Greater Phoenix Leadership Council (GPEC) and the Flagstaff Forty) provide administrative support for SFAz. SFAz's novel funding model creates truly translational research collaborations between researchers and the commercial sector.

- In 2012, the Tucson Regional Entrepreneurial Economy Task Force, initiated by TREO and other community leaders, issued a report recommending that the region "grow their own" companies in the form of spinouts from the UA and successful companies in the region. Among the recommendations in the report was the creation of a new social media platform, Startup Tucson, to facilitate communication among startups and the important stakeholders in the community, such as university scientists, the Desert Angels, the UA tech parks and potential investors.

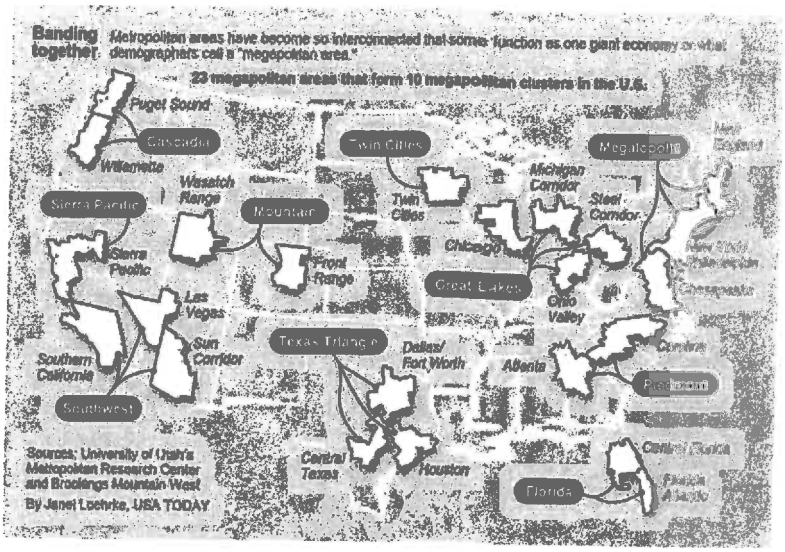
The Tucson Region's Role in the Sun Corridor

The Tucson region does not operate in an economic vacuum. Arizona's Sun Corridor, a transportation and economic region defined as stretching from Prescott to Nogales, is one of the nation's "megapolitan" regions which will experience strong growth in years ahead. (See figure on page 33.) Furthermore these regions themselves are interconnected and function as a single economy. In economic development, TREO is already working in a coordinated fashion with its sister organization, GPEC, and the state's economic development agency, the Arizona Commerce Authority (ACA). To have the greatest chance for success, the Tucson region must work closely with these and other members of the Southwest Megapolitan, especially its closest neighbors, Phoenix, Los Angeles and San Diego.

During the recent TREO sponsored fact-finding trip to San Diego, several opportunities for collaborations between biotechnology companies in Tucson and San Diego emerged. For the last 30 years, San Diego has focused on the discovery and development of new drug therapies. This is now being concentrated at the Janssen Center (sponsored by Johnson and Johnson) and the California Institute for Biomedical Research or CALIBR (sponsored by Merck). These programs focus on demonstrating proof of principle for new potential therapies. These organizations have expressed interest in collaborating with programs such as the

Tucson-based Translational Drug Discovery and Development Center in UA's BIO5 Oro Valley. Such collaborations would reduce the Tucson region's need to duplicate the expertise and technology present in these San Diego programs. In return, the Tucson region's expertise in diagnostics can be of great value to San Diego scientists because they are developing new drugs that require companion diagnostic tests that can identify those patients most likely to respond to treatment.

Megapolitan Regions of the United States as single economic units



Another example of a regional collaboration is that being developed between Tucson's Critical Path Institute (C-Path) and Phoenix's Biodesign Institute at Arizona State University (ASU) and the International Genomics Consortium (IGC). The collaboration, termed the National Biomarker Development Alliance (NBDA), had initial funding from Science Foundation Arizona and now has seed funding from the Flinn Foundation to establish the infrastructure for translation of new biomarkers that are discovered in the laboratory to become practical commercial diagnostic tests. This collaboration could be synergistic with the Tucson region's emerging strength in diagnostics.

Capitalizing on Arizona's International Border

The San Diego trip revealed that the region is reaping great benefit by working in collaboration with their cross-border community, Tijuana, Mexico. It became apparent that TREO should explore and develop opportunities for the Tucson region to take maximum advantage of its international border and the highly motivated and talented workforce in Sonora and Northern Mexico. A significant impediment to economic progress across the US's southern border has been the delay in moving people and products.

In 2005, there were extensive discussions between the State of Sonora, TREO, Critical Path Institute and the UA on how to capitalize on the border by building upon established collaborations between the UA Health Sciences Center and the newly formed medical school at the Universidad de Sonora. There was uniform agreement that the State of Arizona, especially the Tucson region, and the Mexican State of Sonora should develop collaborations in the biosciences and specifically pharmaceuticals. The Arizona-Sonora Commission and the University of Arizona identified pharmaceuticals as a potential growth area but the economic downturn of 2008 stalled these efforts. However, in the last two years, the local economy is rebounding and a new economic opportunity has emerged in pharmaceutical manufacturing.

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

PHOENIX AZ 852

13 JAN 2015 PM 6 L

I enjoy walking and getting exercise and enjoy Tucson ☺

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

C Auer (name)

Box 17392 701. S Front Royal (address)

Tucson AZ 85710

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

PHOENIX AZ 852

13 JAN 2015 PM 6 L

walking through the desert is beautiful!

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Gabrielle Johle (name)

2321 E 3RD ST (address)

Tucson, AZ 85719

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

PHOENIX AZ 852

13 JAN 2015 PM 6 L

it promotes health and I am tired of hearing about accidents.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Daniel Hogan (name)

5514 E Rosewood Street (address)

Tucson, AZ 85711

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

PHOENIX AZ 852

13 JAN 2015 PM 6 L

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Rocio Villa (name)

4545 S. Mission Rd (address)

#31 Tucson Az 85746

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

PHOENIX AZ 852

the desert is a beautiful place to explore!

13 JAN 2015 PM 6 L

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Gina Campitello-Moore (name)

10931 W Mars Rd (address)

Tucson, AZ 85743

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

PHOENIX AZ 852

I love the safety, efficiency and the joys of walking. Additionally, I love the clean air, exercise.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Rachelle Degay (name)

3216 W. Desert Pawn Trail (address)

Tucson, AZ 85742

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because
I want my son to be safe while playing outside.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Diana Clayton (name)
8916 N. FITZGERALD (address)
TUCSON, AZ 85472

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because
our Exercise & more health

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

John Finkelstein (name)
720 S. 2nd Avenue (address)
TUCSON, AZ 85701

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the

Dear Committee Members,

PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because
its good exercise & helps promote
& teach my children.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Christina Prot (name)
81 W Calle Guya (address)
Sahuarita, AZ 856029.

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because
I want people to be safer

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Kara Russell (name)
1031 E. Prince (address)
Tucson AZ 85719

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

15701133293

Dear Committee Members,

PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because
walking is accessible to everyone

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Brian Sabri (name)
2321 E 3RD ST (address)
Tucson, AZ 85719

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I'd love to spend more time outside with my family & drive less

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Rebecca Zapien (name)
1202 E. Silver St. (address)
Tucson, AZ 85719

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I am a mother of 4 and would like safer cross ways for all Tucson's children

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Crystal Rowe (name)
126 E Mohave Rd apt 102 (address)
Tucson AZ 85705

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I walk my kids to school every day.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the

Dear Committee Members, PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because

13 JAN 2015 PM 4:1

a walkable region builds community!!

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Marcie Seery (name)
933 W. Lind St. (address)
Tucson, AZ 85705

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

85701133299

Dear Committee Members, PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I walk or ride my bike everyday to School and work and want the same for others.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Jill TenHaken (name)
2022 E. Florence Dr. (address)
Tucson, AZ 85719

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members, PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because

walking is safer & Polluting air.

13 JAN 2015 PM 4:1

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Robo Rowe (name)
130 W Mcmillan Pl (address)
85705

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I love walking

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Deborah Ashley (name)

25 W. 18th St #3 (address)

Tucson, AZ 85701

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

it way healthy alternative.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Jeff Ziegler (name)

13934 N. Stone Palisade Dr. (address)

Marana, AZ 85658

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

1570113299

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

Safety and accessable areas for me and my son.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Larry Horvath (name)

5700 W. El Camino Del Cerro (address)

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

People walk and it is currently dangerous in many places across the region.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Ben Anderson (name)

1127 E. Adams #3 (address)
Tucson, AZ 85719

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

WALKABILITY is KEY to a GOOD region. I DONT OWN A CAR. I WALK because I truly do WANT to WALK! for health happiness & EVERY THING!

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

SARAH MEGLISON (name)

741 E. Drachman St (address)
TUCSON 85719

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members, PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I love to walk in my neighborhood. Its important to have safe walkable communities, so we need more sidewalks and cross walks.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Shannon Shula (name)

542 E 8th St (address)

Tucson, AZ 85705

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

85701133299

Dear Committee Members, PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because

09 JAN 2015 PM 11

Healthier community responsible for an environmentally sensitive manner

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Marcelino C Flores (name)

2135 N. Treat #11 (address)

Tucson AZ 85711-6

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I want to know my community and for them to know me. I want to feel connected.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because SAFETY IS VERY IMPORTANT, AND IMPROVED SIDEWALKS WILL HELP IMPROVE OVERALL FITNESS AND CONTRIBUTE TOWARD BRINGING DOWN HEALTH COSTS.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

MIKE WALKER (name)
8416 N MAIN ST PNE WAY (address)
TUCSON, AZ 85743

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

85701133299

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because it is good for all people and the planet,

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Patricia Jutras (name)
522 E Speedway (address)
Tucson, Az 85705

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because its important for comm. writing residents to have access to walking & playing in the area where they live!

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Lindsay Walker (name)
Jefferson Park (address)

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

85701133299

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Wendy Hall (name)
7730 E. Broadway Blvd (address)
Apt 1511 Tucson AZ 85710

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

85701133299

Dear Committee Members, PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because the weather is awesome in Tucson.

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Raphael Duarte (name)
5490 S. Canada Dr (address)
Tucson, AZ. 85706

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because This city is NOT pedestrian friendly - and it should be

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Julie & Doug Kluge (name)
2513 N. Southern (address)
Tucson Star
85713

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

PHOENIX AZ 852

I am a Pima County resident and I am a pedestrian. I want a walkable region because

What to be safe when walking

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Colleen Lisciandrelli (name)

6605 E Fayette St (address)

Tucson, AZ 85730

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Bill Nance (name)

2120 Campbell (address)

Tucson

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Peg. Nance (name)

2120 Campbell (address)

Tucson, AZ.

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because walking is healthy and saves gas

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

SAM CHIA (name)

5025 N. 1ST AVE., #529 (address)

TUCSON, AZ 85718

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because I have a child + need safer areas

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Dear Committee Members,

I am a Pima County resident and I am a pedestrian. I want a walkable region because Safety!

I am writing to you in support of fully funding the Pedestrian Safety & Comfort Bond Proposal put forth by Living Streets Alliance and I look forward to voting "YES" for it in 2015.

Thank you for your consideration and for your service to the community as a member of the Bond Advisory Committee.

Sincerely,

Kim McKee (name)

215 W. Oro Valley (address)

Oro Valley, AZ 85737

Pima County
Bond Advisory Committee
c/o Pima County Administrator
130 W Congress Street
Tucson, AZ 85701